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\$2.50 / SEPTEMBER 1987

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LANDSCAPE MANAGEMENT

Formerly WEEDS TREES & TURF

1988
BUYER'S
GUIDE

Penneagle crowds out bluegrasses on Butler National's fairways



Triplex fairway mowing at The Butler National Golf Club, Oak Brook, IL

When Oscar Miles, CGCS, of The Butler National Golf Club, introduced Penneagle creeping bentgrass into his *Poa annua* infested A-20 bluegrass fairways in 1980, he took a dynamic step toward the beautiful fairways praised by the pros during the Western Open.

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Circle No. 104 on Reader Inquiry Card

SEPTEMBER 1987/LANDSCAPE MANAGEMENT 1

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I'm offering substantial savings on the full line of LESCO equipment.

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\$10,575.00	
<u>625.00</u>	5% Sebring Pickup
\$ 9,950.00	Due Net by October 1, 1987

Note: Examples reflect total discounts of 20.4%. Sales tax not shown.



James I. FitzGibbon
*Chairman and Chief Executive Officer
LESCO, Inc.*

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Some companies have had great success marketing services in the fall. Before you start up such a program, here are some tips to follow from business consultants Rudd McGary and Ed Wandtke.

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As you begin to get ready to purchase equipment, chemicals and seed for the 1988 season, you'll want to refer to the annual LANDSCAPE MANAGEMENT Buyer's Guide, 32 pages with jam-packed information.

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Cover
illustration by
Joel Rogers

LANDSCAPE MANAGEMENT, formerly WEEDS TREES & TURF, (ISSN 0894-1254) is published monthly by Harcourt Brace Jovanovich Publications. Corporate and Editorial offices: 7500 Old Oak Boulevard, Cleveland, Ohio 44130. Advertising Offices: 7500 Old Oak Boulevard, Cleveland, Ohio 44130. 111 East Wacker Drive, Chicago, Illinois 60601 and 3091 Maple Drive, Atlanta, Georgia 30305. Accounting, Advertising Production and Circulation offices: 1 East First Street, Duluth, Minnesota 55802. Subscription rates: \$25 per year in the United States; \$35 per year in Canada. All other countries: \$70 per year. Single copies (pre-paid only): \$2.50 in the U.S.; \$4.50 in Canada; elsewhere \$8.00; add \$3.00 for shipping and handling per order. Second class postage paid at Duluth, Minnesota 55806 and additional mailing offices. Copyright © 1987 by Harcourt Brace Jovanovich, Inc. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher.

POSTMASTER: Send address changes to LANDSCAPE MANAGEMENT,
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Circle No. 134 on Reader Inquiry Card

Good news, bad news

■ Do you want the good news first or last? Okay, first the good news.

Because home mortgage rates are more than 10 percent, more homeowners are spending money to fix up their existing homes and residential landscaping is a big part of that. But "gardening" is not an "in" hobby as much any more, says Lawrence Chimérine, Ph.D., who has worked for the Department of Commerce and Bureau of Labor Statistics. "There has been a trend to use outside lawn services, and that trend seems to remain in place."

Chimérine, chairman and chief executive officer of Wharton Econometrics (formerly Chase Econometrics), made his observation at July's Outdoor Power Equipment Expo in Louisville, Ky. Now the bad news, via Chimérine's other predictions:

● This has been the most uneven period of economic performance, at least back to the 1930s. And a number of sectors haven't recovered from the recent recession at all. "We may continue to muddle along for the next six or seven years," he says.

The recent surge in consumer spending and housing activity are both being reversed. "The consumer is already drowning in debt," Chimérine says. "The forward momentum is just about over, and I think you have to look at your industry now."

● There will be income tax changes. "Maybe not until we get another President," he observes. "Many (of the next new laws) could impact on the upper income groups" who are purchasers of lawn and landscape services.

Yuppie power and horticulture

■ Growth in the horticulture service industry has been increasing steadily over the past few years for a number of reasons, but one horticulture professor thinks it has something to do with yuppies.

"It is part of the yuppie image, having a beautiful garden along with an expensive car and a swimming pool," says David J. Beattie, Ph.D., professor of horticulture at Penn State University.

He adds, "Europeans have been ahead of us in wanting beautiful gardens." He notes that American society is picking up on this.

Job opportunities are up while candidates for those jobs are down. Penn State has about 125 undergraduate students in horticulture compared with 400 in 1983. Beattie attributes this decline to students, desire for green other than plants.

Bruno C. Moser, Ph.D., Purdue University concurs. "I think the association in students' minds with agriculture and the poor farm economy is a reason because most horticulture classes are in schools of agriculture."

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SANDOZ CROP PROTECTION

PESTICIDES

ChemLawn employees will be scrutinized

Health records of ChemLawn employees who handled pesticides from 1969 to 1980 are being studied to identify possible risks from 2,4-D exposure. ChemLawn sanctioned the study after the National Cancer Institute released a report last year suggesting a link between the herbicide and lymphatic cancer in farmers.

The NCI is conducting the study, which will include an estimated 5,000 ChemLawn employees and former employees who handled pesticides. It is the first such examination of lawn care employees' health records.

"We fully expect to find there is no problem with 2,4-D," says Chem-

Lawn's Steve Hardymon. "This was at our request after their (NCI's) original study came out. We've got much better information than they've got on the Kansas farmers."

The NCI study on Kansas farmers concluded that long-term exposure to herbicides, particularly 2,4-D, increased the risk of non-Hodgkins lymphoma. ChemLawn immediately suspended its use of 2,4-D.

(The NCI's conclusions were disputed by three of four epidemiologists hired by the U.S. Environmental Protection Agency.)

NCI researchers hope to find out if mortality rates of ChemLawn employ-

ees are higher than for people who do not handle pesticides. If they are, researchers will examine what products the employees worked with and what other activities they were involved in.

Sheila Hoar Zahm, Ph.D., of the NCI's occupational studies section, is in charge of the study. She says it will take about a year to examine the histories of present employees who were with ChemLawn from 1969 to 1980 and another year to examine the histories of those who have left the company.

A full report will probably be released in two years, Zahm said.

PRODUCTS

Fungicide label OK'd

The Environmental Protection Agency has given label approval to Banner fungicide, manufactured by Ciba-Geigy. The product is registered to control a number of diseases on cool-season grasses only. The two main diseases it controls are dollar spot and brown patch.

"We've been expecting EPA approval on Banner for a couple of years," notes Houston Couch, Ph.D., a plant pathologist at Virginia Polytechnic Institute and State University.

Banner is a broad spectrum, systemic fungicide which is concentrated enough to have recommended application rates of 1-2 oz. per 1,000 sq. ft.

According to the company, 1 oz. per 1,000 sq. ft. will control dollar spot for two to four weeks; 2 oz. controls brown patch for two to three weeks.

Banner has entered market distribution and is available from Ciba-Geigy. "We're confident that the product will perform well," says Mike Joyce of Ciba-Geigy.



15th anniversary

Bob Russell, left, accepts a plaque honoring his 15 years as secretary-treasurer of the American Seed Trade Association's Lawn Seed Division from Lawn Institute executive director Eliot Roberts, Ph.D.

TURFGRASS

Midnight, Blacksburg tie in national bluegrass test

Midnight and Blacksburg tied for first with mean quality ratings of 6.1 on results just published from the National Kentucky Bluegrass Test. These ratings are the first obtained on the test, which was established in 1985.

In the USDA's rating system, 9.0 is ideal turf, 1.0 the worst.

Midnight scored best in Maryland and Ohio while Blacksburg's top scores were reported from Maryland, Oregon and Rhode Island. Midnight scored best (6.5) in September, Blacksburg in January (6.8). The two also tied for first in percent of living ground cover left in the fall with scores of 72.5. Midnight was rated sec-

ond in spring green-up and first in genetic color.

Next highest scorers were Rugby, Asset and BA 72-500, each with 6.0s.

According to the USDA report, "interpretation should be done with caution because results may be modified with additional experimentation."

Ratings were taken at 27 locations on 72 cultivars, some experimental. Here are mean ratings for the top cultivars:

Midnight	6.1
Blacksburg	6.1
BA 72-500	6.0
Rugby	6.0
Asset	6.0
BA 72-492	5.9

F-1872	5.9
Tendos	5.9
Classic	5.9
Trenton	5.9
K3-178	5.9
BA 70-139	5.8
America	5.8
Challenger	5.8
Georgetown	5.8
K1-152	5.8
BA 73-540	5.8
Sydsport	5.8
Victa	5.8
Lofts 1757	5.8
Cheri	5.8
Haga	5.8
Baron	5.8
239	5.8

GOLF

New real estate booms with building of new golf courses

Approximately one out of two real estate projects under construction for year-round or resort living includes golf site lots for potential buyers, according to the American Society of Golf Course Architects.

One reason for the golf boom is the aesthetic appeal to both golfers and non-golfers. Also, demographics show that, though the number of golf courses has doubled since 1960, the number of golfers has increased four-fold since then.

Further—and perhaps most important—is the excellent return of profits for developers and soaring property values for homeowners.

Buyers at a New England resort and conference center who paid \$90,000 for units were able to turn around and sell them for \$150,000 just two years later.

Industry experts believe this trend will continue as more and more people take up the sport of golf.

ATHLETIC TURF

Reprints available on safe fields

Athletic turf managers now have easy access to information on maintaining safe fields. *LANDSCAPE MANAGEMENT* magazine is selling reprints of two athletic turf issues. The reprints can be given to parent-teacher organizations or school boards to illustrate the importance of quality fields.

The two issues were originally published in September 1986 and June 1987. "Sidelined" deals with how to construct and maintain safe fields, and "Hard Knocks" explains in detail a test which may become a necessity for natural turf field managers.

Reprints sell for \$5.50 each (\$2.50 plus \$3 handling) or field managers can order both "Sidelined" and "Hard Knocks" for \$8. The price is tax-deductible since profits will go to the National Sports Turf Council.

To place an order, call HBJ's Business Information Services at (216) 826-2839 or send a check payable to HBJ to: Business Information Services, 7500 Old Oak Blvd., Cleveland, OH 44130. Be sure to specify which reprint you want.

BENT GOING NATIONAL?...Jack Murray, Ph.D., says the USDA Beltsville (Md.) facility may establish a National Bentgrass Test, comparable to other national tests for bluegrass, perennial ryegrass and fescues. "There is some interest," Murray notes. "We discussed it during the Southern Turfgrass workshop." Murray says 1988 is too early to expect the tests to be implemented, but that they could be in operation by 1989 or 1990.

DESERT—REAL DESERT—GOLF...Using the resources of Sheikh Mohammed Bin Rashid Al Maktoum, the first all-grass golf course in the Arabian Gulf will open just outside Dubai, Arabia, by the end of the year. According to "Parks, Golf Courses & Sports Grounds" magazine (Middlesex, England), constant watering is done through 740 Toro pop-up heads fed by two lakes containing 10 million gallons of desalinated sea water. Greens at Emirates Golf Club (and you should see the clubhouse!) have been seeded with Tifton 328 bermudagrass and fairways with Tifton 419 to cope with daily temperatures of 104 degrees and more.

A LIVING MEMORIAL...Workers broke ground June 15 on the Henry C. Soto Water Conservation Garden at the Los Angeles State and County Arboretum in Arcadia. The memorial is a tribute to Soto, a pioneer landscaper in Southern California who died a year ago. The garden was designed by Soto's friend Robert Cornell to exemplify Soto's determination to "never throw anything away." The garden emphasizes water conservative plants and the usefulness of recycled materials such as broken concrete, railroad ties and large trees rescued from the paths of bulldozers.

STAMP OF APPROVAL...A national campaign has begun to increase public awareness of arboriculture through a postage stamp honoring the industry. The Citizen's Stamp Advisory Committee has received a proposal for such a stamp. Should the committee approve the proposal, about 100 million stamps would be printed. Those in favor of such a stamp should write: Citizens' Stamp Advisory Committee, 475 L'Enfant Plaza SW, Washington, D.C. 20260-9998.

SEEDSMEN MEET...The 35th annual convention of the Atlantic Seedsmen's Association will be held at the Summit Hotel, Hartford, Conn., on Oct. 28-30. The seedsmen will begin their program on Wednesday with their annual member round-table, according to president Jim Harris. The annual banquet will be held Thursday evening.

Additional program and registration information is available from John Baylor, Ph.D., executive director, Atlantic Seedsmen's Association, 298 E. McCormick Ave., State College, PA 16801. Baylor's phone number is (814) 237-0330.

NEW ADDITIONS...Arid turf-type tall fescue and Foltz alkali grass have been added to the American Seed Trade Association/Lawn Seed Division Variety Review Board's list of recommended turf cultivars. Dropped from the list were Clemfine tall fescue and Citation and Omega ryegrasses.

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Four hydraulic reel mowers provide quality cuts on fairways, tees or other wide-area applications. The 303 and 305 are 3- and 5-gang pull-behind units. The 756 and 856 each feature three tractor-mounted



comparisons seem obsolete

reels with a rear reel that can be removed to give access to the tractor's drawbar or 3-point hitch. All of these units are available with 4-, 6-, 8-, or 10-blade reels.

Utility machines include the 1500 Utility Vehicle that can be equipped as a sprayer, spreader, or hauler, and the 90 Boom Mower that reaches over 9 feet to make quick work of hard-to-reach areas.

Five new aerators round out the line. Units that breathe new life into your turf with various spoon, blade, and shatter-tine options.

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CALCULATING COSTS

Is it better to buy a small mower at a cheaper price or an expensive large mower which will finish the job quicker? This article shows you how to calculate your costs.

by Heide Aungst, managing editor

The scene goes something like this: A school system needs a new mower. The school board approves the budget for a 36-inch rotary. The landscape manager knows that a 72-inch rotary would more efficiently mow the football field, but can't explain why.

Budgets haunt even the best landscape managers. But they're a fact of life. Sooner or later most managers have to explain to a higher-up why a more expensive piece of equipment is more economical.

Bill Bedrossian, director of grounds

management for Servicemaster, says it's important to know what type of area you need to mow, before deciding what size equipment is needed.

"Look at how close the trees and buildings are and the total acres to mow," he explains. "For low maintenance areas, usually rotaries fit the bill. For open areas, get the biggest equipment."

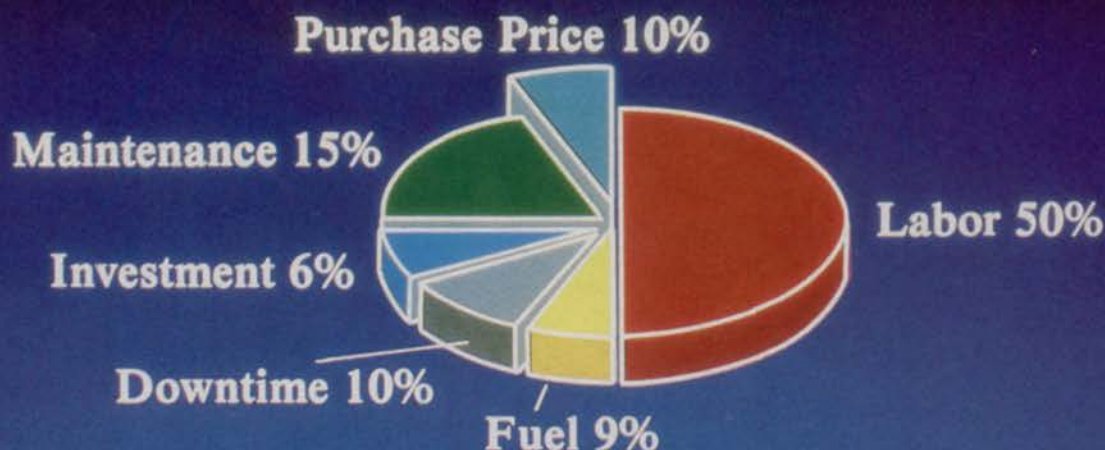
The Professional Grounds Management Society has compiled figures which take into account equipment size, mowing time, equipment cost per hour and per acre, and labor cost

per hour and per acre (see chart).

Labor costs are based on \$7.50 an hour with 25 percent added in for benefits, or \$9.38 an hour.

With this information, it's easy to figure out the most economical equipment to buy. For example, to figure the cost of mowing 150 acres with a 60-inch rotary: multiply total mowing cost (\$13.16/acre) times acreage (150) to get \$1974 per cut; that figure times cuts per season (28) to get \$55,272 per season. But with a 72-inch mower, multiply \$9.04 times 150 to get \$1356, times 28 equals \$37,968 per season.

Total Mowing Cost by Component



MOWING COSTS

Equipment Used	Mowing Time Hrs/Acre	Equipment Cost/Hr	Equipment Cost/Acre	Labor Cost/Hr. (7.50 + 25%)	Labor Cost/Acre	Total Mowing Cost/Acre
20" Rotary	4.70	\$.99	\$4.65	\$9.38/hr.	\$44.09	\$48.74
36" Rotary	2.90	2.82	8.18	9.38	27.20	35.38
48" Rotary	1.60	3.95	6.32	9.38	15.01	21.33
60" Rotary	.91	5.08	4.62	9.38	8.54	13.16
72" Rotary	.58	6.21	3.60	9.38	5.44	9.04
70" Reel	.43	5.26	2.26	9.38	4.03	6.29
84" Reel	.25	5.52	1.38	9.38	2.35	3.73

Comparative Example:

60" vs. 72" Mower on 150 Acres

60" 150A × \$13.16/Acre = \$1974/cut × 28 cuts/season = \$55,272 /season

72" 150A × \$ 9.04/Acre = \$1356/cuts × 28 cuts/season = \$37,968 /season

Difference \$17,304 /season

That's a difference of \$17,304 in just one season. In this case, it would be more economical to buy the 72-inch mower.

Irrigation

When figuring costs for irrigation equipment, Bedrossian says the landscape manager must first ask these questions: Is dormancy acceptable? Can the grass variety be changed?

Then the landscape manager must look at all the costs involved. The annual ownership costs involve securing a water source (well construction, pond construction); conveyance costs (getting water from the source to where it will be used); pump cost; power unit cost; expense of the distribution system; special equipment (sensors, pipe); interest, taxes and insurance. The annual operating costs include water cost, energy, maintenance and repairs and labor.

An in-ground system costs \$804 per acre; agricultural gun with a three-inch hose costs \$872 per acre; while a traveling sprinkler with a one-inch hose costs \$1027 per acre.

"An in-ground system is less expensive in labor and saving of water," Bedrossian says. "In seven to eight years, you'll get a payback with an in-ground system."

Aeration

"Aeration is one of the least expensive practices with the most benefit," Bedrossian says. The cost takes into

consideration going two directions.

The aerator costs \$1.05 per acre; the tractor to pull it, \$5.25 per acre; labor \$10.69, for a total cost of \$16.99 per acre.

Fertilization

For soil balancing and fertilization, invest in a soil test first. It should cost \$3 to \$10. Keep in mind soil characteristics: physical, chemical and living.

Cost to physically balance the soil

Aeration is one of the least expensive practices with the most benefit.

—Bill Bedrossian

includes \$16.99 per acre for aeration; \$450-500 per acre for top dressing; and \$50-\$138 per acre for soil penetrants.

Chemical balancing practices include liming (50 lbs./1000) at \$35-60 acre or sulfur (4 lbs./acre) at about \$40/acre.

The cost of fertilization depends on the needs of the soil. "Use the proper product or you're wasting your money," Bedrossian says. "Be results-oriented."

The type of equipment used also makes a difference in the cost of fertil-

ization. A push-spreader has a labor and equipment cost of \$28.64 per acre. Add \$55 in materials for a total cost of \$83.64 per acre.

A tractor-mount spreader, on the other hand, costs \$7.69 in labor and equipment. With \$55 in materials, the total fertilizing cost per acre is \$62.69, a savings of \$20.95. "It doesn't take long to pay for a \$500 to \$800 cyclone spreader," Bedrossian says.

Contract or in-house?

Weed control is an area where some landscape managers choose to contract out. A contract may raise the direct cost of an application, but could be a savings in other aspects. For one thing, a manager wouldn't need to worry about certification of employees. "Do you want to assume the liability or transpose the liability by contracting out?" Bedrossian points out. "Do you have someone who's certified?"

A wet application of broadleaf weed control done in-house costs \$21 per acre, while contracting it out would be \$45 to \$75 per acre.

A crabgrass pre-emergence granular application with a P.T.O. spreader costs \$66 per acre in-house. A combined spray costs \$65 per acre in-house, and \$75 to \$110 per acre contracting it out.

Bedrossian says that when figuring costs, keep in mind that it may differ from facility to facility. Costs mentioned here are a guideline. **LM**

AGING GRACEFULLY

At Ohio University, the oldest institution of higher learning in the Northwest Territory, elderly trees help create a beautiful campus.

by Jerry Roche, editor

In 39 years at Ohio University, Dan Stright has seen it all. From floods that forced dormitory evacuations in 1964 and 1968 to a 1986 fire that devastated half the stands at Peden Stadium. From relocating a baseball field to mending severed gas lines.

The landscape at Ohio University, which dates to 1804, is a surprising combination of the old and the new. On the main campus, called the College Green, stands Cutler Hall, the first building of higher learning

in the Northwest Territory. Just to the rear of the building looms an aged sycamore, still apparently in perfect health.

However, areas surrounding the venerable College Green—the East, West and South greens—are in a constant state of flux dictated by varying enrollment and changing educational needs. And that means landscape-size headaches for Stright.

An example. Because of numerous and enormous shadows

cast by the tall trees, Stright once had a problem growing grass on the College Green. But no longer.

"Now, we buy what's called mushroom compost," notes Stright. "We buy 200 tons in the spring and spread it two inches thick over the College Green. It contains minerals, horse manure and peat moss. It doesn't smell very good, but boy it does make the grass grow."

Stright says the compost costs \$325 per ton delivered, but it positively affects both grass and soil.

Twenty tons of commercial 10-20-20 fertilizer are also purchased each year and applied in August "until we run out."

Another example. An area adjacent to the West Green through which the Hocking River flowed 20 years ago became intramural fields in the 1970s. The area has since been converted to a pair of practice football fields, and Stright is in the process of improving the low-lying land's drainage.

"I had to buy 2,000 tons of silt/sand topsoil to crown the fields," Stright says. "When the Army Corps of Engineers re-routed the river in the early 1970s, they buried all our good topsoil." Stright notes that, because of budget constraints, the fields will be crowned and drained but not completely tiled. He plans on installing turf-type tall fescue for its wear tolerance. "There'll be a lot of poundage on those fields, and tall fescues are tough once you get them going," he says.

Turfgrass beaches

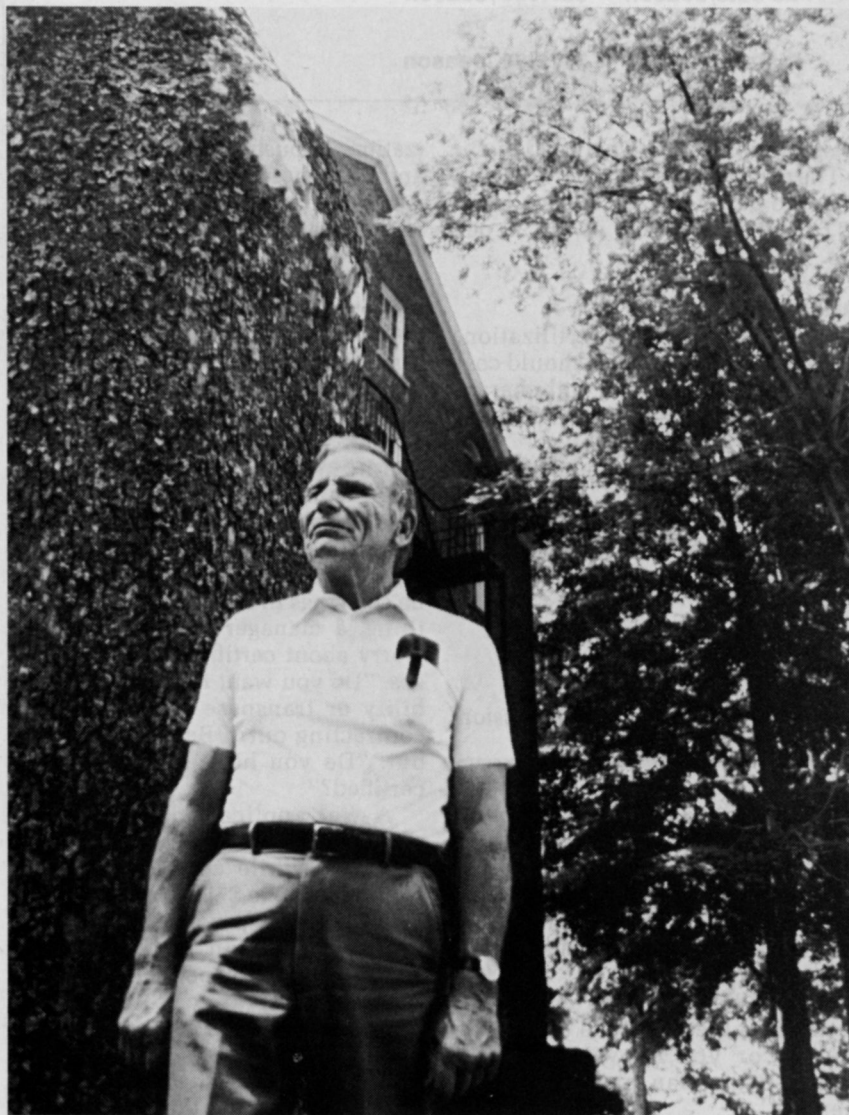
Along the re-routed Hocking is a 2,660-foot strip of turf which Stright calls an Ohio University-style "beach." (Students like to sunbathe on the south-facing stretch during sunny spring days.) This "beach" contains 175 donated cherry trees and a 150-year-old ginkgo tree.

Because of a new bike path running along the Hocking, problems were created on the adjacent nine-hole golf course. For safety purposes, four new greens had to be built last fall and some holes had to be realigned.

Unlike other golf courses around the country, the O.U. course has actually suffered from new construction. Originally a spacious, beautiful 18 holes, the course is now a short nine holes.

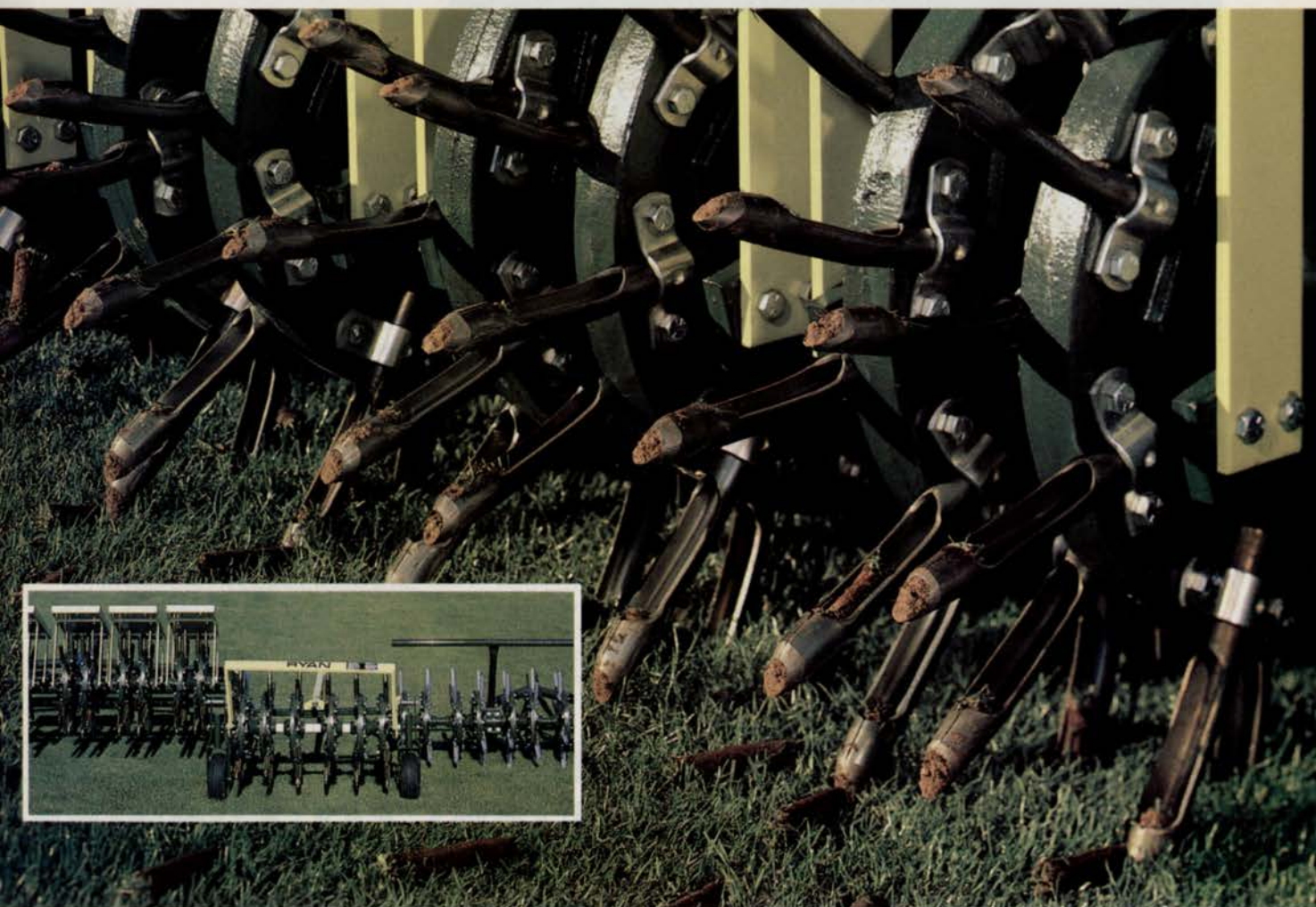
To "intensely manage" the rest of the 400 acres, the landscape crew consists of 27 regular employees, three supervisors and Stright. During the summer, as many as 30 students are hired. In the spring, Stright hires

continued on page 16



Dan Stright at the trunk of a century-old (or more) sycamore on Ohio University's venerable College Green.

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South-facing hills like this one near Scripps Hall have been terraced to minimize effects of the sun on the turf.

eight or nine "emergency" employees to prepare for graduation. And the university has a contract with a nearby workshop, which supplies retarded citizens to mow various areas.

Part of his funds come from an annual budget, but for purchases of special landscape materials, Stright relies on the Campus Beautification Fund, donations from alumni of \$2,000 to \$3,000 a year.

Busy backhoe-ing

A full complement of equipment is necessary to tend this vast area, situated in the rolling hills of southeastern Ohio. The school owns about 20 Gravely mowers with 40-inch cutting swaths, 10 Kut-Kwicks, a Gravely Pro 60 with a 60-inch swath, four John Deere riders and two Gravely riders. The school also uses 10 Ford tractors with three-bladed 84-inch rotaries whose blades must be kept sharp to be effective. (Stright just bought a new one this year. Some of the Fords still in use date back to 1965.) Also available are a Massey-Ferguson loader, a grader, a ditcher, trucks, pick-ups, a bulldozer and 30 or so Weed-Eaters.

Yet the most valuable piece of equipment is the backhoe. "We have to buy a new one every four years," Stright notes. "We have it out every damn day on something or other." The day LANDSCAPE MANAGEMENT visited, the backhoe was on the East Green digging up a broken gas line

into a dormitory. Digging alone is quite a problem.

"Places you dig, you run into lines that you don't know what the hell they are," Stright observes. "Most of this land used to be houses and just about everywhere you dig

you run into 'Athens Block' bricks." Athens, home of Ohio U., used to have its own brick manufacturer.

Kentucky bluegrass is the dominant grass on campus. But it gets reseeded with 500 pounds of a 49% bluegrass/30% creeping red fescue/21% ryegrass mixture each year.

Going to the well

Stright is in the process of hooking the university's irrigation systems (Toro on portions of the College Green and Rainbird in Peden Stadium) into a series of wells. Trautwein Field, where the Phillies' Mike Schmidt once helped the baseball Bobcats to the College World Series, is already hooked to an adjacent well.

Stright, a member of the Association of Physical Plant Administrators, was awarded the O.U. Outstanding Administrator Award in 1986. He is proud of his accomplishments.

"The president (Charles Ping) gets a lot of compliments from students," he smiles. "While most state-supported schools couldn't get enough students this year, we had to turn students away. And part of the reason is because the campus looks so nice.

"At least, that's what the president said the other day." LM

LANDSCAPE PROFILE

FROM A(sh) TO Z(innias)

The campus at the University of Minnesota -Waseca is a horticultural smorgasbord. Students design and maintain most of the campus, learning the ins and outs of landscape management along the way.

by Heide Aungst, managing editor



Jerry Nelson: students help out

Most turf managers might call Brad Pedersen crazy.

"We like a golf green to come out with a snow mold problem," Pedersen says coolly. "We love it when it gets dollar spot and pythium."

Love dollar spot? Pythium? There's only one motive to the madness: education.

Pedersen is an associate professor at the the University of Minnesota Technical College-Waseca. His philosophy—as well as the school's—is to give the students one focus:

continued on page 22



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landscape management. The lab isn't an isolated farm, as it is at many schools. The lab is the entire campus...or, rather, the campus is the laboratory, open to the creativity, and occasional mistakes, of its students.

Waseca began as an agricultural high school in the heart of corn and soybean country. The University of Minnesota took over the facilities in the early 70s and started a 1200-acre experiment farm, along with the technical college.

The 110-acre campus may be one of the smallest campuses in the system, but with the recent decline of agriculture, it's a haven for landscape management students.

The campus currently is going through a re-design and students are involved in all aspects. In August 1986, students seeded 12 acres with a conventional rye and bluegrass mix. Last fall, students designed campus roadways and, in the spring, lined them with little leaf lindens and Summit ash.

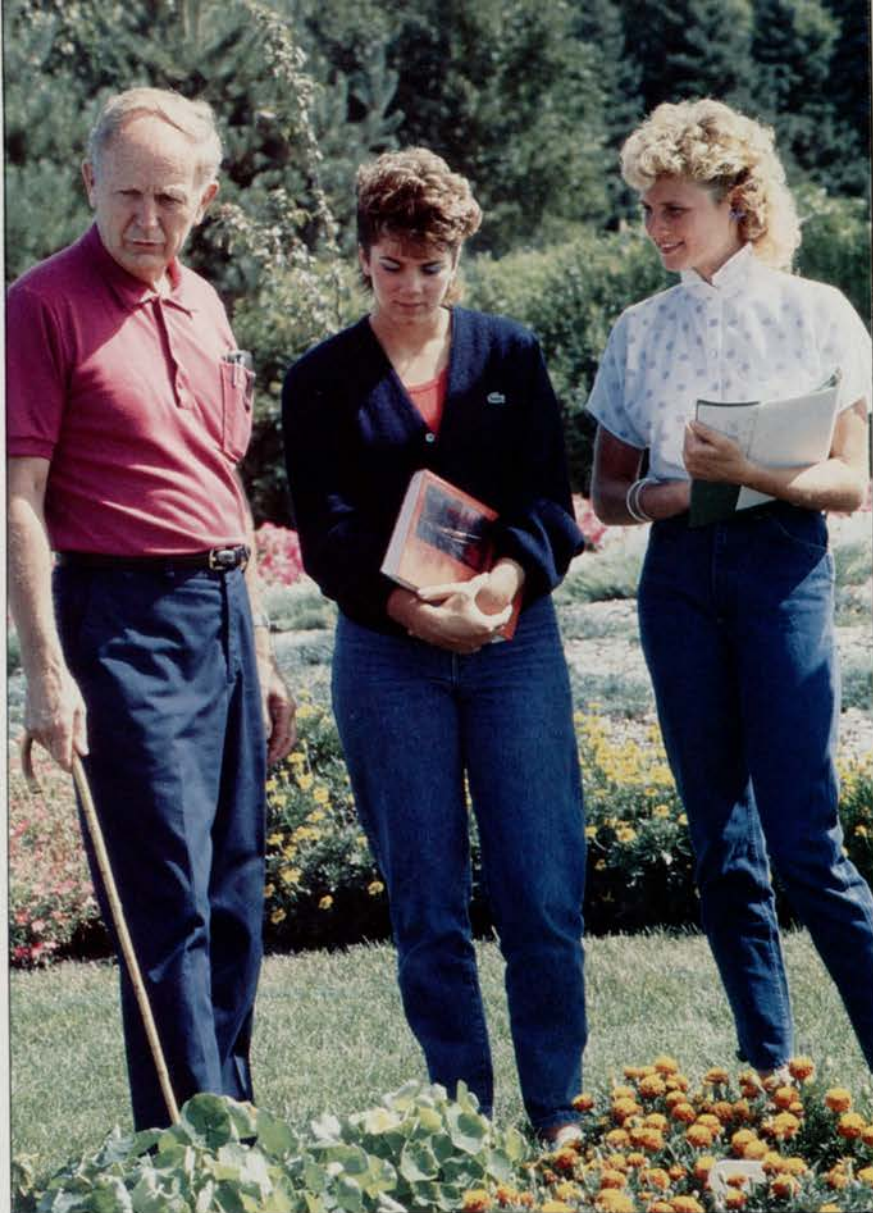
Students or crew?

Despite the majority of work being done by students, a buildings and landscape crew of seven (superintendent, two gardeners, three buildings and grounds personnel, and a technician) oversees the campus. "There's no definite break-down," says landscape manager Jerry Nelson. "When they're not doing it, we do it."

The budgets are even kept separate. Plant materials used by students come from the educational budget, but plants used by the landscape crew come from maintenance budget.



John Ball: "In my class, I'm God"



The campus is the laboratory at UMW. Professor Phil Allen instructs students.

Nelson's crew is responsible for general maintenance of the campus and athletic fields, including a football field, two practice fields and two softball fields.

The crew concentrates on the athletic fields, horticultural gardens and front entrance, which is the focal point of the re-design. Only the entrance is irrigated, although some irrigation will go into the garden area as it's built.

"Usually a faculty member decides what needs to be done and when it needs to be done and coordinates it with the landscape supervisor," Pedersen explains.

When the two departments cross, they don't always agree. "There's a lot of plant material that I would not get if it weren't for the horticulture department being here," Nelson says. "There's a lot I don't think is real hardy. But we usually talk it over."

Often, what a class leaves unfinished, the Horticulture Club picks up on, so students can gain even more experience. And, what the Hort Club leaves undone, work-study students and the maintenance department will come in and finish.

Nursery students grow much of the plant materials used on campus in six on-site greenhouses. "We label everything someplace on campus," Pedersen says. "We try to duplicate it once or twice for testing."

An example is the juniper garden which incorporates three samples of several species, all pruned differently. "Quite frankly, you can lecture about these things forever and you can even demonstrate, but it's not until students stand out there by themselves that they really learn," says Pedersen.

During the two year technical program, students learn plant materials, landscape and hardscape

continued on page 24

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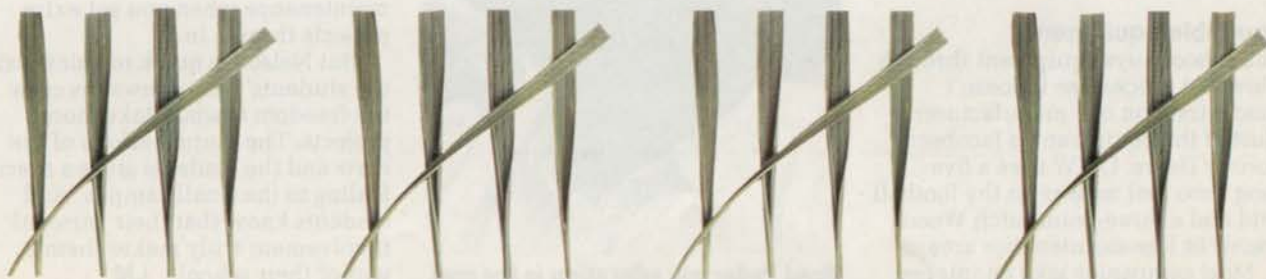
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SEPTEMBER 1987/LANDSCAPE MANAGEMENT 23

design, equipment, and the business of bidding for jobs. Books and lectures, of course, are significant, but take a back seat to the hands-on training.

Students design and maintain what's known as the "free form" garden. The gardens blaze each spring with bright colored annuals mixed in with perennials and groundcovers. Students have learned hardscaping by installing different patio paving systems, a gazebo and retaining walls. Future plans include building a waterfall and installing nightlighting.

"The gardens were cornfields the year I came," Pedersen says. He started at UMW in 1973 as landscape supervisor. Only one class had gone through the program. Pedersen worked on a masters degree nights and became an instructor in '78.

Besides the gardens, students work extensively with turf. The campus has 32 turf plots (250 sq. ft.) and a golf green.

Trimmin' trees

Students go so far as to prune trees on campus. UMW has at least 53 species of trees on campus, along with its own arboretum.

"Students start working on the sycamore or oak because they're forgiving trees," explains John Ball, a UMW professor who climbs trees along with his students. The liability crisis is threatening the arboriculture industry today. That can be a crisis to a college class.

"In my class, I'm God," Ball says. "They get one mistake...Well, they don't even get that."

"One way to control students' tree pruning is to use electric chain saws," Ball says. "They're lightweight, easy to start, and I can unplug them to get their attention."

Students also are assigned specific areas to maintain, which they work on about 20 hours a week. Most of the 65 acres of turf on the campus gets fertilized twice a year, spring and fall, with nitrogen. The landscape crew mows manicured areas twice a week at two inches in the spring and once a week at 2½ inches in the heat-stressed summer.

Equitable equipment

The school buys equipment through a low-bid process, so it doesn't concentrate on one manufacturer. Most of the equipment is Jacobsen, Toro or Deere. UMW uses a five-gang Toro reel mower on the football field and a three-point hitch Woods tractor in low-maintenance area.

Most companies take an interest



Despite the liability crisis, UMW students still prune trees.

in exposing students, their future customers, to various equipment. Jacobsen has loaned equipment to the school, and Cushman gives UMW a three-wheel truckster each year. Toro, located in nearby Minneapolis, puts on irrigation seminars each year.

"I think it's good for students to

get on different mowers," Nelson says. "When they get out, that's what they'll need to know about."

The school actively participates in its own Integrated Pest Management (IPM) program.

"We use very little insecticides," Nelson says. "We use nothing on a preventative basis. We spray only when there's a problem and we've been lucky."

Nelson uses Trimec for weed control twice a year, hitting areas harder with the fall application.

With the campus growth and re-design, Nelson's job is anything but boring. "The biggest challenge is the new construction going on," he says. "You can't concentrate on maintenance when you get extra projects thrown in."

But Nelson is quick to point that the students' help allows his crew the freedom to undertake more projects. The mutual efforts of the crew and the students gives a special feeling to the small campus. And students know that their personal involvement truly makes them a part of their school. **LM**



Brad Pedersen: education is the goal



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FALL MARKETING

Some companies have had great success marketing services in the fall. Before you start up such a program, here are some tips to follow.

by Rudd McGary and Ed Wandtke

For most green industry companies, spring is the most active marketing time. Opportunities exist for a fall marketing system that could be helpful to green industry companies, whether they be lawn care, tree or landscape services.

In the North, tree services can generate revenue for the winter months, and marketing can reflect the possibility of pruning at this time.

Southern areas have various opportunities for landscape and maintenance services in the winter months. But for the most part, fall marketing doesn't deal with raising revenue for the winter; rather it is done for both fall and next-season purposes.

Given the fact that fall marketing has been successful for some companies in various parts of the country, here are some of the keys to helping put together a strong fall marketing program:

1. Define the marketing's objective. If it is for extra sales in the fall, then you will approach it one way. If it is for generating fall revenue and for next-season customers, you'll approach it differently. (Examples later.)

2. Don't use the same materials for fall marketing that you used for your regular spring marketing. Some companies simply take the same mailing materials and telemarketing scripts and use the ones left over from spring in the fall. It doesn't work very well, if at all. You should include something

MANAGEMENT IN BUSINESS

Fall marketing is done for both fall and next-season purposes.

that points out the benefits of your service over the winter months. If what you are doing in the fall doesn't help, why are you doing it?

3. Define your current customer base. This means that you need to know their geographical location as well as their income and their home values. By assessing these three simple pieces of information, you will be able to go the next step.

Information such as this is found in two places. For the location, check your own routing cards. For the demographic materials, look either to the library or mailing list companies. Both have the information. At the library it's free but time-consuming. With the mailing list companies, it's fast but costly.

4. Use your current customer list as a model for your fall marketing. Generally, people with similar buying patterns use such services. The best way to profile your next customer is to define your current customer base. This is especially true in the fall, when you have been servicing the next-door neighbors or people who are demographically the same, for the entire season. In the fall they can evaluate your work visually and get referrals from people who have been serviced.

If you've done your job well, these people will generally help you get new customers. If you haven't, you've

got more troubles than worrying about fall marketing anyway.

5. Be more liberal with incentives in the fall. But this statement is true only if you are trying to get people who will take both the fall and next-year services. If you are simply trying to generate a few fall sales, you shouldn't do anything out of the ordinary. If, however, you can get these people to become next-season customers, you can afford to be a little more generous with your offers. Then you won't have to spend time in the busy spring season to attract them, and you will have some extra revenue in the fall.

6. Start the marketing activity right after Labor Day. You want people who are going to be next-season customers to have a chance to work with your company this year. If you wait until October to do your marketing, you may be unable to actually provide them with your service. It is always better if a consumer has had previous service. And starting after Labor Day will help you provide them with a sample of how you operate your business.

Fall marketing should be focused not only on raising some extra revenue in the fall time window, but also on getting the customers to remain the next season. The keys are knowing your own current customer base, and using that knowledge to help target your customers for fall marketing. Most people buy services because someone else they know does also. This should be a key in the green industry marketing plans, but it's often overlooked. Don't do that in the fall marketing.

Finally, make sure that you use different materials from those used in the previous spring. Just because you have some brochures left over, a little free radio time from a barter arrangement, or an old telemarketing script, doesn't mean that you should use them in the fall. Planning to do your fall marketing early (as opposed to a rush of activity in September or October when you want a little more revenue) will help you design a marketing program to fit your company and help you be more profitable in the upcoming year.

LM



Wandtke and McGary are senior consultants with All-Green Management Associates in Columbus, Ohio. Dr. McGary focuses on marketing and management issues. Wandtke focuses on operations and financial questions.

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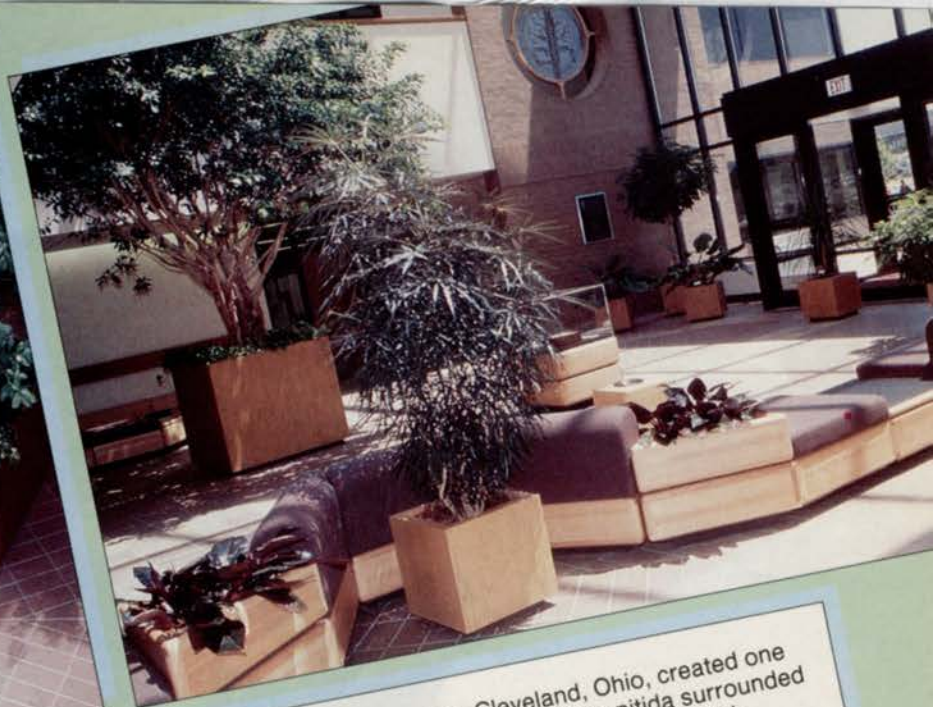
by Heide Aungst, managing editor

The IBM atrium and bamboo garden have received international acclaim as the largest interior bamboo garden in the world. Architect Edward Larrabee Barnes of New York, N.Y., designed the garden in 1982. Everett Conklin of New Jersey installed the project. But by the time John Mini of John Mini Landscapes Ltd., City Island, N.Y. took over maintaining the project in May 1984, problems had set in. Ammonium hydrofluoric cleaning compound contaminated the soil. The plants were under-nourished and infested with spider mites and common bamboo fungus. The 275 bamboo plants (all 30 to 40 feet tall) were about 75 percent browned out. Mini worked with experts from Rutgers University and the New York Botanical Garden to implement a healthy management program. The first step was to set up a permanent inventory at Tropical Ornamentals in Florida. Mini takes soil and tissue samples four times a year, and soil feeding is carefully calculated. The bamboo canes either are tied up or left to weep in a monofilament line, creating the desired canopy. Mini spends more than \$10,000 in maintaining the atrium. The project won a 1986 ALCA "Grand Award" for interior management.

John Mini Landscapes Ltd.: Circle No. 191 on Reader Inquiry Card.

Edward Larrabee Barnes: Circle No. 192 on Reader Inquiry Card.





Simple lines, simple greenery. Designer Joanne Troutman of Plantscaping Inc., Cleveland, Ohio, created one focal point in the atrium of the new Cleveland Heights City Hall: an 18-foot multi-trunk ficus nitida surrounded by pothos. Other plants include Prince Albert philodendron, Plutos, aralia elegantissima, arboricola bush, ponytail palm and a seven-foot braided arboricola. The plants grow in custom-designed planters. The tall planters, built by Reserve Millworks, complement the oak finish throughout the building and match the soft-seating and low planters by Landscape Forms. The design won a 1987 "Best Project" award from *Interiorscape Magazine*.

**Landscape Forms: Circle
No. 193 on Reader Inquiry Card.**

**Reserve Millworks: Circle
No. 194 on Reader Inquiry Card.**

**Plantscaping Inc.: Circle
No. 195 on Reader Inquiry Card.**

Interior landscape designer Kim Parker Associates, Inc., San Jose, Calif., created a park/forest environment in the Corvus Systems building, San Jose, Calif. The company devoted more than 5,000 sq. ft. to the interiorscaping. Parker worked closely with building architect David Birskovich and landscape architect Hoffman Associates, in developing the area. KPA used ficus Benjamina trees ranging from 8 to 14 feet tall. She used aglaonema as ground cover and impatiens for color. Other plant materials include silver queen and king, baby's tears, spathiphyllum and aspidistra. Norfolk island pines surround a seating area to create a forest atmosphere. KPA eliminated the need for manual watering by designing and installing an automatic drip irrigation system. The atrium cost \$150,000 and won a 1986 "Excelsior Award" from the California Landscape Contractors Association.

**Kim Parker Associates, Inc.: Circle
No. 196 on Reader Inquiry Card.**





What The Average Person Considers An Eyesore On The Golf Course.

Just the sight of Poa annua makes us cringe. And it seems to never go away.

So after putting our ears to the ground and our best minds in the lab we discovered a beautiful solution. Our remarkable new TGR™ Poa Annua Control.

Scotts patented TGR technology weakens Poa annua on fairways and bentgrass greens, while controlled-release fertilizer helps desirable turf thrive and overtake the Poa.

But most important, the transition to desirable grasses is gradual. So there's not a



What A Scotts Tech Rep Considers An Eyesore On The Golf Course.

sudden change in playing surface conditions.

Ask your Scotts Tech Rep to help you incorporate TGR Poa Annua Control in your turf management program.

At least you'll have one less ugly problem to worry about.

For more information contact your Scotts Tech Rep or simply call 1-800-543-0006. In Ohio call collect 513-644-2900.

Scotts
ProTurf.

LANDSCAPE MANAGEMENT

Formerly WEEDS TREES & TURF

BUYER'S GUIDE

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CHEMICALS _____	74		



1. Equipment

Aerators, Aquatic

Barebo Inc/Otterbine

Aerators, Soil

Brinly-Hardy Co
Classen Mfg
Earl J Crane Inc & Assocs
Cushman-Ryan/OMC Lincoln Div
Dedoes Industries Inc
Deere & Co
Feldmann Engineering & Mfg Co
Fuerst Brothers Inc
Gandy Co
Hahn Inc
Hoffco Inc/Comet Industries
Howard Rotavator Co
Jacobsen Div
JISCO
F D Kees Mfg Co

Kinco Mfg
LESCO Inc
Olathe Mfg Inc
R L Parsons & Son (Bomford Center)
Salsco Inc
Sensation Div
Steiner Corp
Terracare Products Co
Toro Co
Westheffer Co

Aerial Lifts

Arbortech/A Scott Fetzer Co
Hi-Ranger Inc
Promark Products Inc
Reach All Inc

Anchors, Earth

BASF Corp Fibers Div
A B Chance Co
Foresight Products Inc
Hoffco Inc/Comet Industries
Mar-Mac Mfg Co

Aquatic Weed Eating Fish

Sea-Ranch

Augers

Charles Machine Works Inc (Ditch Witch)
Howard S Crane Inc
Feldmann Engineering & Mfg Co
Ford New Holland Inc
Hoffco Inc/Comet Industries
International Reforestation Suppliers

JISCO
Little Beaver Inc
Melroe Co
Seymour Mfg Co
Solo Inc
Tanaka USA

Backfillers

Bomford & Evershed Ltd
Bush Hog
Charles Machine Works Inc (Ditch Witch)
Guest Industries Inc

Back Hoes

American Trencher Inc
J I Case Outdoor Power Equipment Div
Charles Machine Works Inc (Ditch Witch)
Howard S Crane Inc
Deere & Co
Engineering Products Co (Power King)
Ford New Holland Inc
Ingersoll Equipment Co
Kubota Tractor Corp
Massey-Ferguson Inc
Melroe Co
R L Parsons & Son (Bomford Center)
Seaman-Parsons Corp
Vermeer Mfg Co
Woods Div

Benches

American Playground Device Co
Earl J Crane Inc & Assocs



The Indiana Convention Center and Hoosier Dome in Indianapolis, heart and pulse of a great state.

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When you're playing host to millions of visitors each year, looking good is part of the action. And that includes maintaining your grass areas in peak condition. If the acreage is substantial, but not extensive enough to warrant a tractor, consider the M36 mid-size mower from Ransomes. The 36" cutter deck makes it easy to work around trees, shrubs and flower beds while the 11 horse engine powers you through 11 acres in an 8 hour day. And that's grounds for seeing your Ransomes Bob Cat distributor. Or, call Ransomes, Inc., One Bob Cat Lane, Johnson Creek, WI 53038. (414) 699-2000.

RANSOMES

The grass machine.

Equipment

continued

Jonathan Green Inc
Landscape Structures Inc
Playworld Systems
Standard Golf Co

Blades, Mower, etc

Bolens Corp
Bomford & Evershed Ltd
Bunton Co
Bush Hog
Earl J Crane Inc & Assocs
Deere & Co

Deutz-Allis Corp
Engineering Products Co (Power King)
Lawnboy Product Group
LESCO Inc
Power Lawnmower Parts Inc
Ransomes Inc
Vrisimo Mfg Co
Wheel Horse Products Inc

Blades, Dozer/Scraper

American Trencher Inc
Ariens Co

Bolens Corp
Bomford & Evershed Ltd
Bush Hog
J I Case Outdoor Power Equipment Div
Howard S Crane Inc
Deere & Co
Deutz-Allis Corp
Dixon Industries Inc
Engineering Products Co (Power King)
Ford New Holland Inc
Grasshopper Co
Grazer Div
Kubota Tractor Corp
Massey-Ferguson Inc
Simplicity Mfg Inc
Steiner Corp
Westendorf Mfg Co
Wheel Horse Products Inc
Woods Div

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Circle No. 137 on Reader Inquiry Card

Bleachers

American Playground Device Co
Playworld Systems

Blowers

Atwater Strong Inc
Billy Goat Industries
Bunton Co
Earl J Crane Inc & Assocs
Cushman-Ryan/OMC Lincoln Div
Deere & Co
DOB Distributors Inc
Giant-Vac Mfg Inc
Green Machine
Hoffco Inc/Comet Industries
Homelite Div
Jacobsen Div
Lawnboy Product Group
LESCO Inc
Maruyama US Inc
Olathe Mfg Inc
Ransomes Inc
Shindaiwa Inc
Snapper Power Equipment
Solo Inc
Steiner Corp
Tanaka USA
Turf Vac Corp
Westheffer Co
Yard Vac Products Inc

Bridges

Continental Custom Bridge Co
Reach All Inc
Western Wood Structures Inc

Brush Cutters, Hand Held

Ames Co
Earl J Crane Inc & Assocs
Deere & Co
DOB Distributors Inc
Hoffco Inc/Comet Industries
Homelite Div
International Reforestation Suppliers
Lawnboy Product Group
Maruyama US Inc



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Jacobsen. Designed to meet your growing needs.

Name your challenge, then look us over.

If your job were simple, ours would be, too. But, it isn't. That's why our line is so broad. And growing. Jacobsen engineers are working on the design, development and improvement of turf-care equipment for the future.

Our objective, on the other hand, *is* simple. To make the strongest, most efficient and cost-effective turf maintenance equipment possible. Simple objectives with sophisticated solutions. From Jacobsen. The line that keeps on growing.

Lease and finance plans are available.

Jacobsen Division of Textron Inc., 1721 Packard Avenue, Racine, Wisconsin 53403.

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TEXTRON

Engineered from the ground up.

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Circle No. 132 on Reader Inquiry Card

Equipment

continued

Seymour Mfg Co
Shindaiwa Inc
Snapper Power Equipment
Solo Inc
Tanaka USA
Westheffer Co
Yazoo Mfg Co

Brush Cutters, Right-of-Way

Bomford & Evershed Ltd
Bush Hog
Howard S Crane Inc
Dandl Mfg Co
Green Machine
Kinco Mfg
Massey-Ferguson Inc
R L Parsons & Son (Bomford Center)
Royer Foundry & Machine Co

Bucket Lifts

Arbortech/A Scott Fetzer Co
Bomford & Evershed Ltd
Howard S Crane Inc
Guest Industries Inc
Promark Products Inc
Reach All Inc
Strong Mfg Co
Westendorf Mfg Co

Carts, Lawn

Ames Co
Brinly-Hardy Co
CHI Industries Inc
Country Mfg Inc
Earl J Crane Inc & Assocs
Howard S Crane Inc
Deere & Co
FXG Corp
Gravely Intl Inc
Ingersoll Equipment Co
Kuker Industries
Precision Products Inc
Simplicity Mfg Inc
Wheel Horse Products Inc

Chain Saws

Earl J Crane Inc & Assocs
Deere & Co
Fairmont Hydraulics
Green Machine
Homelite Div
Shindaiwa Inc
Solo Inc
Stanley Hydraulic Tools
Tanaka USA

Chain Saw Parts

Earl J Crane Inc & Assocs
Deere & Co

Green Machine
Power Lawnmower Parts Inc
Shindaiwa Inc
Solo Inc

Chippers

Badger Chipper Co
Bolens Corp
Burkeen Mfg Co
Chipmore Mfg Co
Earl J Crane Inc & Assocs
Lindig Mfg Corp
Morbark Industries Inc
Olathe Mfg Inc
Promark Products Inc
Royer Foundry & Machine Co
Vermeer Mfg Co

Cultivators

Ames Co
Bomford & Evershed Ltd
Bush Hog
Classen Mfg
Earl J Crane Inc & Assocs
Deere & Co
Engineering Products Co (Power King)
Fuerst Brothers Inc
Gravely Intl Inc
Green Machine

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Circle No. 126 on Reader Inquiry Card



PART OF THE SECURITY IS KNOWING ITS A HIJET.

Introducing the Daihatsu Security Vehicle.

The unique HIJET Security Vehicle from Daihatsu gives you stability, power and performance when you need it. It can even double as a utility vehicle.

The rugged chassis is powered by a whisper-quiet, 3-cylinder, water-cooled, gasoline engine. Unlike electrical vehicles, you never have to plug in and recharge. So Daihatsu's Security Vehicle works 24 hours a day, seven days a week.

You get a 4-speed synchromesh transmission, MacPherson strut type front suspension, 4-wheel braking and a top speed of 25 MPH.

It's so maneuverable, you can make turns in a radius of only 12 1/2 feet. You can drive it over paths designed for golf carts and with its standard turf tires, you can drive across the most tender turf without leaving a mark. Street tires are also available as standard equipment for use on paved surfaces at airports, industrial complexes, parking structures and other locations, like motor-home parks, private residential communities, hotels and resorts.

The enclosed cab offers lots of leg and head room, headrests, a highly visible instrument panel, a moveable spotlight and a heater with defroster. There's also a large, damage-proof tool chest and a durable floor mat in the bed, plus heavy-duty bumpers in the rear for towing and in the front for pushing other vehicles in distress.

For information on the Security Vehicle or the full line of HIJET Multipurpose Utility Vehicles, see your HIJET dealer or call (714) 761-7000.



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Los Alamitos, CA 90720



Classified by Underwriters Laboratories Inc. as to fire hazard only. Type GS industrial truck.

Circle No. 112 on Reader Inquiry Card

Equipment

continued

Hoffco Inc/Comet Industries
Howard Rotavator Co
Solo Inc
Vicon Farm Machinery Inc

Dethatchers

Ariens Co
BlueBird Intl Inc
Brinly-Hardy Co
Brouwer Turf Equipment Ltd
J I Case Outdoor Power Equipment Div
Classen Mfg
Earl J Crane Inc & Assocs
Cushman-Ryan/OMC Lincoln Div
Deere & Co
Deutz-Allis Corp
Ford New Holland Inc
Fuerst Brothers Inc
Gravely Intl Inc
Hahn Inc
Hoffco Inc/Comet Industries
Howard Rotavator Co
Jacobsen Div
F D Kees Mfg Co
Kinco Mfg
Mathews Co
Middlesworth Engineering & Mfg Inc
Olathe Mfg Inc
R L Parsons & Son (Bomford Center)
Salsco Inc
Vrisimo Mfg Co

Wheel Horse Products Inc
Yard Vac Products Inc

Dozers

Bomford & Evershed Ltd
Deere & Co
Deutz-Allis Corp
Excel Industries Inc
Grasshopper Co
Ingersoll Equipment Co

Drainage Tubing

Advanced Drainage Systems Inc
Cambridge Soil Services of America Inc
Hancor Inc
LESCO Inc
Warren's Turf Nursery Inc

Drills

Bush Hog
Feldmann Engineering & Mfg Co
Hoffco Inc/Comet Industries
JISCO
Stanley Hydraulic Tools

Dusters

B & G Equipment Co
Green Machine

Maruyama US Inc
D B Smith & Co
Southern Mill Creek Products Co
Trebtor Corp
Woodstream Corp

Edgers

Ames Co
Bunton Co
Earl J Crane Inc & Assocs
Deere & Co
Excel Industries Inc
Green Machine
Hoffco Inc/Comet Industries
Jacobsen Div
Steiner Corp
Tanaka USA
Turfco Mfg Inc
Wheel Horse Products Inc

Edging, Lawn

Oly-Ola Sales Inc
Plastics Div Eberhart Steel Products

Engine Parts

Briggs & Stratton Corp
Bunton Co

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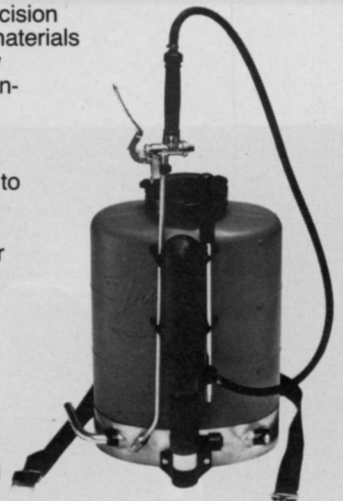
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Telex 759-353

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Circle No. 144 on Reader Inquiry Card

Circle No. 164 on Reader Inquiry Card

Turf-Seed's **CITATION II**

contains naturally pest resistant endophyte
... a fungus that occurs within plant tissue between the cells.

New turf breeding discovery proves resistance to bill bugs, sod webworm, and other pests without harmful chemicals!



Left, insect damage in perennial ryegrass. Right, endophytic ryegrass resists insect pests.

CITATION II Turf-Type Perennial Ryegrass

is well known for its rapid establishment, fine texture, dark green color, improved mowability and drought tolerance, both in a monostand or as part of CBS II blend. But, the REAL plus is Citation II's high endophyte level (over 80%) that make it naturally resistant to leaf eating insects.

This plus results in savings . . . in chemical costs to maintenance people and less exposure to insecticides for applicators, homeowners, golfers and picknickers.

Citation II is not only an investment in finer turf, but it's a savings account for turf managers . . . and our delicate planet.

PVP 8400142. Unauthorized propagation prohibited.



Black lines are endophyte mycelium in leaf tissue.



Magnified endophyte in seed.

Qualified turf grass associations can earn cash for turf research by saving Citation II Oregon certified blue tags. Call us or write for details.



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Outside Oregon 1-800-247-6910
503-981-9571 TWX 510-590-0957
FAX 503-981-5626

Equipment

continued

Earl J Crane Inc & Assocs
DOB Distributors Inc
Kohler Engine Div
LESCO Inc
Power Lawnmower Parts Inc
Strong Enterprises Inc
Tecumseh Products Co
Teledyne Total Power

Engines

Briggs & Stratton Corp
Earl J Crane Inc & Assocs
Deere & Co
DOB Distributors Inc
Ford New Holland Inc
Kawasaki Motors Corp USA
Kohler Engine Div
LESCO Inc
Professional Turf Mfg
Strong Enterprises Inc
Tecumseh Products Co
Teledyne Total Power

Erosion Control Blocks

Presto Products Inc

Erosion Control Fabric

Advanced Drainage Systems Inc
Atlantic Construction Fabrics Inc
BASF Corp Fibers Div
E I DuPont de Nemours & Co
Exxon Chemical Americas
Jonathan Green Inc
North American Green Inc
Presto Products Inc
Warren's Turf Nursery Inc

Fertilizer Injectors

Aquatrols Corp of America Inc
Doggett Corp

Encap Products Co
Inject-O-Meter Mfg Co
LESCO Inc
J J Mauget Co
Moyer & Son Inc
Nature's Touch
Smith Precision Products
Westheffer Co

Filters, Sand

Claude Laval Corp

Foggers

B & G Equipment Co
Solo Inc
Southern Mill Creek Products Co
Trebor Corp

Forklifts

Bomford & Evershed Ltd
Brouwer Turf Equipment Ltd
Deere & Co
Ford New Holland Inc
Guest Industries Inc
Ingersoll Equipment Co
Raymond Corp
Waldon Inc

Generators

Earl J Crane Inc & Assocs
Howard S Crane Inc
Deere & Co
Fairmont Hydraulics
Homelite Div
Kohler Engine Div
Kubota Tractor Corp
Shindaiwa Inc
Tanaka USA
Winco/Energx Corp

Geotextiles

BASF Corp Fibers Div
Exxon Chemical Americas
Hoechst Celanese Corp
Phillips Fibers Corp
Warren's Turf Nursery Inc

Golf Cars

Club Car Inc
Cushman-Ryan/OMC Lincoln Div
E-Z-GO Textron
Melex USA Inc
Noland Car Co
Professional Turf Mfg
Trojan Battery Co

Golf Course Accessories

J A Cissel Mfg Co
Country Mfg Inc
Earl J Crane Inc & Assocs

FXG Corp
Jonathan Green Inc
LESCO Inc
Standard Golf Co
Westheffer Co

Grass Pavers

Presto Products Inc

Hose & Reels

Agrotec Inc
Ames Co
Arborchem Products Co
Broyhill Co
Encap Products Co
Jonathan Green Inc
Clifford B Hannay & Son Inc
Kuker Industries
LESCO Inc
Professional Turf Mfg
Southern Mill Creek Products Co
Spraying Devices Inc
Strong Enterprises Inc
Tuflex Mfg Co
Westheffer Co

Irrigation Systems & Supplies

AMETEK/Plymouth Products Div
Barebo Inc/Otterbine
Buckner Irrigation
Earl J Crane Inc & Assocs
Franklin Electric
Hunter Industries
Irri-Trol Mfg Inc
LESCO Inc
Master Mfg Co
Motorola Control Systems
Nalco Chemical Co
Pierce Corp
Progressive Electronics Inc
Rain Bird Sales Inc
Toro Co
Toro Co Irrigation Div
Weather-matic

Lighting Systems

Rain Bird Sales Inc

Litter Receptacles

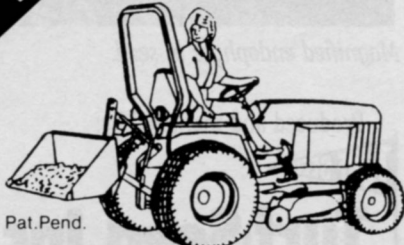
Friend Mfg Corp
Jonathan Green Inc
Landscape Structures Inc
LESCO Inc
Standard Golf Co

Loaders

American Trencher Inc
Atwater Strong Inc
Bomford & Evershed Ltd
Bush Hog
J I Case Outdoor Power Equipment Div
Charles Machine Works Inc (Ditch Witch)

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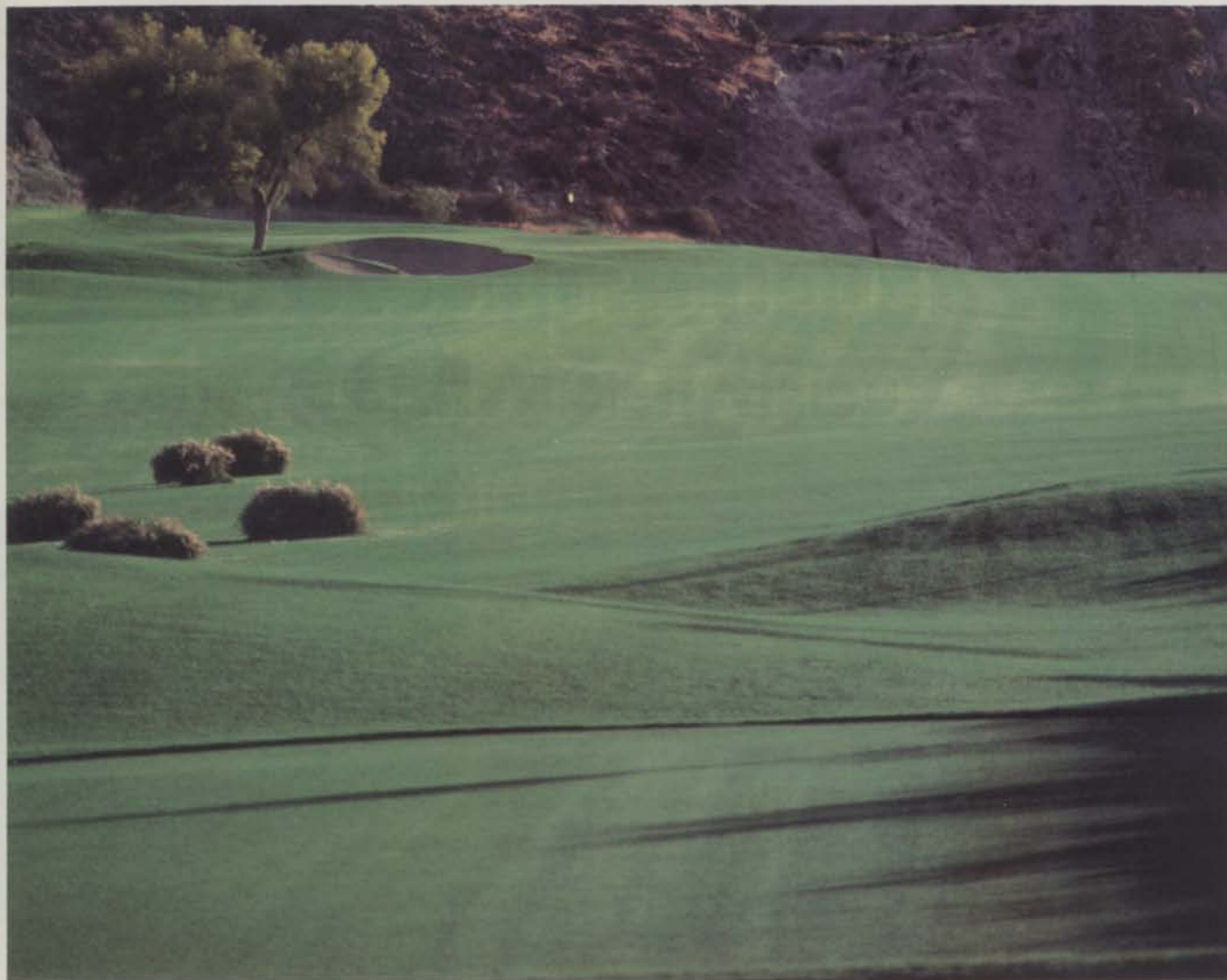
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- Front end loader features at much less cost

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Phone (712) 423-2762

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For a job like this you need an engine you can depend on. You need a Kohler Magnum engine.

All Magnum engines feature electronic ignition for fast, sure starts. Twin cylinder models include full pressure oil lubrication, with automotive-type oil filters. Additional features include dual element air cleaning, PosiLock™ connecting rod cap, optional Oil Sentry™ low oil sensing and a two year warranty that covers commercial use.



Magnum engines range from 8-20 H.P. in horizontal and vertical shaft designs.

We designed Magnum engines to require fewer service parts and less routine maintenance, so your equipment will spend less time in the shop and more time on the turf.

To find out how you can benefit by having Magnum engines on your equipment contact: Kohler Engine Division, Kohler Co., Kohler, WI 53044, 414-457-4441.

KOHLER
engines

Built for a hard day's work.

A close-up photograph of a person's arm, with a white shirt cuff visible at the top right. The arm is bent, and the forearm is pressing a dark, cylindrical container against the side of the torso. The background is dark and out of focus.

Put the squeeze on
container disposal
problems.

*Trademark of The Dow Chemical Company



DURSBAN*

50W Insecticide Water Soluble

With some insecticides, it's harder to get rid of the empty container than the bugs. Now Dow makes everything easier, with DURSBAN® 50W insecticide in water soluble packets.

Water-soluble packaging. DURSBAN 50W comes in pre-measured packets that dissolve quickly and completely. They're packed inside a foil pouch, which is disposed of easily.

It's simple. It's safe. Just drop the premeasured packets into the tank. No chance of spills, no wasted chemical, no measuring errors, less risk of exposure.

All that, and efficacy, too. No insecticide controls a broader spectrum of turf and ornamental insects than DURSBAN insecticide. And as a wettable powder, DURSBAN 50W has even more residual power than emulsifiable concentrates. There's no solvent, so there's no vaporizing or "flash-off" even on the hottest days. DURSBAN 50W stays where you apply it—won't migrate in the soil. And it has a proven human safety record.

Choose your package. DURSBAN 50W comes in water-soluble packets enclosed in one-pound foil pouches.

You can also get DURSBAN 50W insecticide in 2-lb. fiber containers.

Put the squeeze on container disposal problems—and on bugs. With DURSBAN 50W insecticide.

Attention: Always read the label before use and carefully follow all label directions and precautions.



DURSBAN® 50W

Circle No. 115 on Reader Inquiry Card

Equipment

continued

Howard S Crane Inc
Deere & Co
Deutz-Allis Corp
Engineering Products Co (Power King)
Ford New Holland Inc
Ingersoll Equipment Co
Kubota Tractor Corp
Massey-Ferguson Inc
Melroe Co
Steiner Corp
Strong Mfg Co
Waldon Inc
Westendorf Mfg Co

Loading Ramps

American Road Equipment Co
Giant-Vac Mfg Inc
Magline Inc
Melcher Mfg Co
Salsco Inc

Log Splitters

Bush Hog
J I Case Outdoor Power Equipment Div
Deere & Co
Didier Log Splitters
FXG Corp
Giant-Vac Mfg Inc
Ingersoll Equipment Co

Lindig Mfg Corp
Morbark Industries Inc
Promark Products Inc
Vermeer Mfg Co

Markers, Field

International Reforestation Suppliers
Precision Laboratories Inc
Richway Industries Ltd
Westheffer Co

Measuring Wheels

Gandy Co
LESCO Inc
Professional Turf Mfg
Strong Enterprises Inc
Westheffer Co

Mist Blowers

Agrotec Inc
Broyhill Co
Howard S Crane Inc
Friend Mfg Corp
Green Machine
Homelite Div
Maruyama US Inc
Rigo Co

Solo Inc
Strong Enterprises Inc
Tanaka USA
Trebor Corp
Westheffer Co

Mower Accessories

Ariens Co
Bolens Corp
Earl J Crane Inc & Assocs
Cushman-Ryan/OMC Lincoln Div
Deere & Co
Deutz-Allis Corp
Engineering Products Co (Power King)
Grasshopper Co
Hoffco Inc/Comet Industries
Jacobsen Div
LESCO Inc
Scag Power Equipment Inc
Simplicity Mfg Inc
Snapper Power Equipment
Toro Co

Mower Parts

Ariens Co
Bolens Corp
Bunton Co
Earl J Crane Inc & Assocs
Deere & Co
Deutz-Allis Corp
Engineering Products Co (Power King)
Hoffco Inc/Comet Industries
Lawnboy Product Group
LESCO Inc
MoTrim Inc
National Mower Co
Power Lawnmower Parts Inc
Ransomes Inc
Snapper Power Equipment
Toro Co
Vrisimo Mfg Co

Mowers, Flail

Bomford & Evershed Ltd
Bush Hog
Earl J Crane Inc & Assocs
Howard S Crane Inc
Dandl Mfg Co
Deere & Co
Engineering Products Co (Power King)
Ford New Holland Inc
Gravely Intl Inc
Jacobsen Div
Mathews Co
Middlesworth Engineering & Mfg Inc
MoTrim Inc
Mott Corp
National Mower Co
R L Parsons & Son (Bomford Center)
Steiner Corp
Toro Co
Vrisimo Mfg Co
Woods Div
Yazoo Mfg Co

Mowers, Reel

Brouwer Turf Equipment Ltd
Earl J Crane Inc & Assocs

Circle No. 148
on Reader Inquiry
Card



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WHERE YOU
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call or write for information and a trial sample.

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INTRODUCING SCAG'S FULL LINE OF COST CUTTERS.

Scag offers a full line of money-saving, low-maintenance commercial riders and walkers tough enough to handle all your jobs. Scag's simple, self-service design allows for on-site tire changes, replacement of spindle bearings and other repairs at a fraction of the usual time and expense. This means Scag mowers can cost up to 25% less to maintain than comparable models.

What's more, when you save with Scag you don't sacrifice performance. Scag machines cut faster than most compe-

titive brands and give you a manicure finish cut every time. Scag mowers are built from the highest quality parts and materials, like oversize cast iron pulleys, heavy-duty spindles and rugged pneumatic caster wheels. So, they'll outlast as well as outperform ordinary mowers.

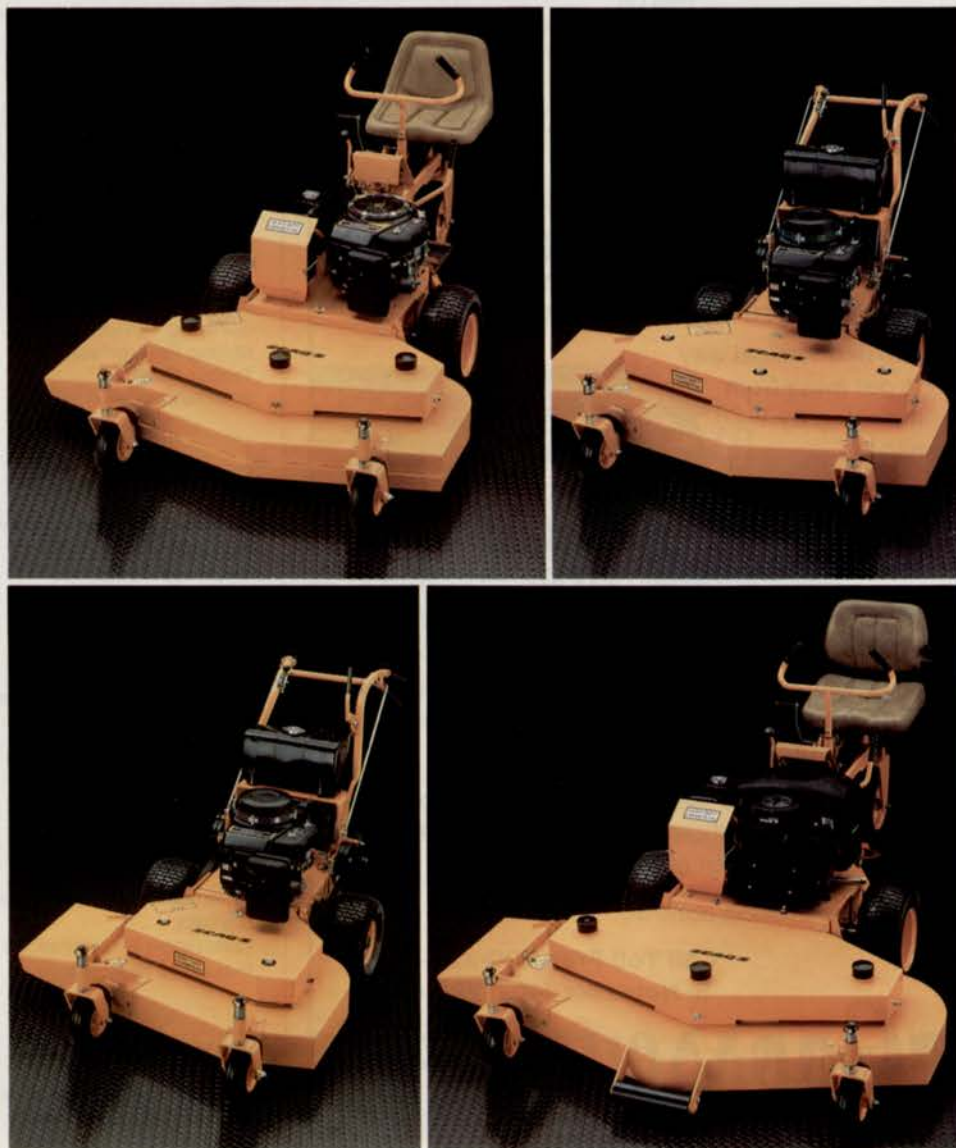
Boost your bottom line with Scag's profit line of riders and walkers from 8- to 18-HP models with 32 to 61 inch cutting widths. See for yourself why no mower is easier to use than Scag.

**W226 N900 Eastmound Drive
Waukesha, WI 53186
Phone: (414) 544-4090**

SCAG

POWER EQUIPMENT

IT SIMPLY COSTS LESS. AND CUTS MORE.



Circle No. 153 on Reader Inquiry Card

Equipment

continued

Dandl Mfg Co
Deere & Co
Engineering Products Co (Power King)
Ford New Holland Inc
Jacobsen Div
LESCO Inc
Locke Mfg Inc
National Mower Co
R L Parsons & Son (Bomford Center)
Howard Price Turf Equipment
Ransomes Inc
Roseman Mower Corp
Steiner Corp
Toro Co

Mowers, Rotary

Ariens Co
Bolens Corp
Bunton Co
Bush Hog
J I Case Outdoor Power Equipment Div
Earl J Crane Inc & Assocs
Howard S Crane Inc
Cushman-Ryan/OMC Lincoln Div
Deere & Co
Deutz-Allis Corp
Dixon Industries Inc
Engineering Products Co (Power King)
Excel Industries Inc

Exmark Mfg Co
Ford New Holland Inc
Giant-Vac Mfg Inc
Grasshopper Co
Gravely Intl Inc
Grazer Div
Heckendorn Mfg Co
Homelite Div
Ingersoll Equipment Co
Jacobsen Div
F D Kees Mfg Co
Kubota Tractor Corp
Kut-Kwick Corp
Lawnboy Product Group
Massey-Ferguson Inc
Middlesworth Engineering & Mfg Inc
MoTrim Inc
R L Parsons & Son (Bomford Center)
Howard Price Turf Equipment
Ransomes Inc
Sarlo Power Mowers Inc
Scag Power Equipment Inc
Sensation Div
Simplicity Mfg Inc
Snapper Power Equipment
Steiner Corp
Toro Co
Vicon Farm Machinery Inc
Wheel Horse Products Inc
Woods Div
Yazoo Mfg Co

Mowers, Sickle Bar

Earl J Crane Inc & Assocs
Ford New Holland Inc
Gravely Intl Inc
Kinco Mfg
Massey-Ferguson Inc
MoTrim Inc
Solo Inc

Mulchers, Hydraulic

Bowie Industries Inc
Deere & Co
Finn Corp
Goossen Industries & Construction
Jonathan Green Inc

Netting

J A Cissel Mfg Co
Jonathan Green Inc

Nozzles & Accessories

Agrotec Inc
Broyhill Co
Buckner Irrigation
Friend Mfg Corp
Hahn Inc
Hypro Corp
Kuker Industries
LESCO Inc
Maruyama US Inc
Professional Turf Mfg
D B Smith & Co
Spraying Devices Inc
Strong Enterprises Inc
Trebort Corp
Westheffer Co

Picnic Tables

American Playground Device Co
BigToys
Playworld Systems

Pipe

Advanced Drainage Systems Inc
Hancor Inc
LESCO Inc
Professional Turf Mfg

Play Structures

American Playground Device Co
BigToys
Landscape Structures Inc
Playworld Systems

Plows, Sand Trap

Earl J Crane Inc & Assocs
Dedoes Industries Inc
Jacobsen Div

THE MULCHING SOLUTION

The Goossen Bale Chopper -

The economical way
to get away from
mulching by
hand.



Shreds straw (and many other materials) in seconds,
and blows it where you want it. Covers large areas
quickly, yet fills in tight spots easily.

Now with electric start, electric clutch. Improved
blower boosts efficiency 20% (upgrade kits
available for earlier models).

Great for erosion control.

Call Toll Free 800-228-6542
In Nebraska, (402) 228-4226

Goossen INDUSTRIES

P.O. Box 705 * Beatrice, Nebraska 68310

Circle No. 125 on
Reader Inquiry
Card

TECUMSEH SNOW KING ENGINES HAVE WINTER STARTING DOWN **COLD**

+10°
0°
-10°



Snow King Engines . . . breaking the trails where others follow in snow thrower power.

Maintaining a well-earned reputation for starting and performing which began in 1895 with the first "Frost Kings". Now better than ever for 1987-88, the Snow King line extends from 1.8 horsepower



through the brawny 10 horsepower HMSK100 and every horsepower between. A full range of options such as effortless 110 volt electric starting and lighting alternators for night emergency snow removal. Tecumseh SNOW KING engines . . . better right from the start.

TECUMSEH PRODUCTS COMPANY
ENGINE AND TRANSMISSION GROUP

1604 MICHIGAN AVENUE, NEW HOLSTEIN, WISCONSIN 53061

Circle No. 159 on Reader Inquiry Card

Equipment

continued

Post Hole Diggers

Ames Co
Bush Hog
Howard S Crane Inc
Deere & Co
Fairmont Hydraulics
Feldmann Engineering & Mfg Co
Ford New Holland Inc
Gravely Intl Inc
Hoffco Inc/Comet Industries
International Reforestation Suppliers
Kubota Tractor Corp
Massey-Ferguson Inc
Melroe Co
R L Parsons & Son (Bomford Center)
Seymour Mfg Co
Tanaka USA

Pressure Gauges

Arborchem Products Co
Broyhill Co
Encap Products Co
Friend Mfg Corp
Kuker Industries
LESCO Inc
Professional Turf Mfg
Southern Mill Creek Products Co
Spraying Devices Inc
Strong Enterprises Inc
Tuflex Mfg Co
Westheffer Co

Pruners, Hedge

Ames Co
Deere & Co
International Reforestation Suppliers
Maruyama US Inc
Rain Bird Sales Inc
Seymour Smith & Son Inc
Stanley Hydraulic Tools

Pruners, Tree

Ames Co
Deere & Co
Fairmont Hydraulics
Fanno Saw Works
Friend Mfg Corp
Green Machine
International Reforestation Suppliers
Rain Bird Sales Inc
Seymour Smith & Son Inc
Stanley Hydraulic Tools

Pumps

Agrotec Inc
Berkeley Pumps
Bowie Industries Inc
Broyhill Co
Hahn Inc
Homelite Div

Hypro Corp
Kuker Industries
LESCO Inc
Maruyama US Inc
Professional Turf Mfg
Shindaiwa Inc
Solo Inc
Southern Mill Creek Products Co
Spraying Devices Inc
Sta-Rite Industries Inc
Strong Enterprises Inc
Tanaka USA
Tuflex Mfg Co
Winco/Energx Corp
Westheffer Co

Rakes, Landscape

Ames Co
Earl J Crane Inc & Assocs
Ford New Holland Inc
Glenmac Inc
Jonathan Green Inc
LESCO Inc
Massey-Ferguson Inc
Melroe Co
Roseman Mower Corp
Standard Golf Co

Rain Sensors

Weather-matic

Rock Pickers

Howard S Crane Inc
Glenmac Inc
KEM Enterprises Inc
Vermeer Mfg Co

Rollers, Lawn

Brinly-Hardy Co
Brouwer Turf Equipment Ltd
Gandy Co
Wheel Horse Products Inc

Rope

Jonathan Green Inc
LESCO Inc
Power Lawnmower Parts Inc
Standard Golf Co

Safety Wear & Equipment

International Reforestation Suppliers
LESCO Inc
3M Occupational Health & Safety
Products Div
Precision Laboratories Inc
Westheffer Co

Saws

Fanno Saw Works
Green Machine
International Reforestation Suppliers

GET SERIOUS ABOUT HYDRO-MULCHING

Bowie Industries invented the Hydro-Mulcher.[®] And whether you specialize in large or small projects, Bowie makes a Hydro-Mulcher that will save you money. The Bowie Victor 800 is ideal for lawn and landscape jobs.



service. Its 800 gallon tank can easily spread 350 pounds of mulch over 8,000 square feet in one application. The Bowie Victor 800 is equipped with a built-in shredder bar, and uses twin agitators

Like all our equipment, the Victor 800 is built Bowie tough for long, trouble-free

to keep slurry homogeneous. Call or write Bowie today. We make serious equipment for serious landscapers.



BOWIE INDUSTRIES, INC.

P.O. Box 931, Bowie, Texas 76230
Toll-Free: 1-800-433-0934 ■ In Texas: 1-817-872-2286 ■ Telex: 887844

Circle No. 106
on Reader
Inquiry Card

"Let **Blazon**™ take the guesswork out of spraying!"



That's right! All of us have seen it before — that unacceptable area in our fairways or lawn. Just as important, an area where chemicals have been over-applied and a burned condition exists, and that can mean extra work for you. ❑ It's difficult to spray accurately and consistently on golf courses because every golf course is made up of countless slopes, contours, and bends. But with **Blazon**™ Spray Pattern Indicator you can take the **guesswork** out of spraying, **forever**. ❑ All you do is add **Blazon**™ right to your spray tank; it's totally compatible with the chemicals you use. It reduces lost time by quickly identifying a clogged nozzle, untreated or overlapped areas. In addition, **Blazon**™ is temporary and non-staining. ❑ **Blazon**™ Spray Pattern Indicator is the **new solution** to a never-ending problem. So contact the distributor nearest you for the product that has taken an art and turned it into a science — "**The Professional Solution for Professionals**"...

Blazon™

SPRAY PATTERN INDICATOR



Milliken Chemical congratulates LANDSCAPE MANAGEMENT on it's new name.

Milliken Chemical, Division of Milliken & Company, P.O. Box 817, Inman, South Carolina 29349, (800) 845-8502

Circle No. 139 on Reader Inquiry Card


**MILLIKEN
CHEMICALS**

Equipment

continued

Rain Bird Sales Inc
Seymour Smith & Son Inc
Solo Inc
Stanley Hydraulic Tools

Scrapers

Bomford & Evershed Ltd
Deere & Co
Massey-Ferguson Inc

Screeners

Claude Laval Corp
Lindig Mfg Corp
Royer Foundry & Machine Co

Seeders

Ames Co
Bowie Industries Inc
Brillion Iron Works Inc
Brouwer Turf Equipment Ltd
Bush Hog
Earl J Crane Inc & Assocs
Cushman-Ryan/OMC Lincoln Div
Deere & Co
Gandy Co
Hahn Inc
Herd Seeder Co
Jacobsen Div
Maruyama US Inc

Olathe Mfg Inc
Salsco Inc
Thompson Seeder Co
Vicon Farm Machinery Inc

Seeders, Hydraulic

Bowie Industries Inc
Brillion Iron Works Inc
Earl J Crane Inc & Assocs
Finn Corp
Reinco Inc

Sharpeners

Earl J Crane Inc & Assocs
International Reforestation Suppliers

Shears

Ames Co
International Reforestation Suppliers
Rain Bird Sales Inc
Seymour Smith & Son Inc

Shelters

Playworld Systems
Western Wood Structures Inc

Snow Blowers

Ariens Co
Bolens Corp

Bunton Co
J I Case Outdoor Power Equipment Div
Howard S Crane Inc
Cushman-Ryan/OMC Lincoln Div
Deere & Co
Deutz-Allis Corp
Engineering Products Co (Power King)
Excel Industries Inc
Ford New Holland Inc
Grasshopper Co
Gravely Intl Inc
Grazer Div
Green Machine
Hoffco Inc/Comet Industries
Homelite Div
Ingersoll Equipment Co
Jacobsen Div
Kubota Tractor Corp
Massey-Ferguson Inc
Simplicity Mfg Inc
Snapper Power Equipment
Solo Inc
Steiner Corp
Toro Co
Wheel Horse Products Inc
Woods Div

Snow Plows

Ariens Co
Bomford & Evershed Ltd
J I Case Outdoor Power Equipment Div
Deere & Co
Deutz-Allis Corp

Take Aim on Crabgrass and Goosegrass with



ACCLAIM!® 1EC Herbicide Brings High Technology Down to Earth!

Acclaim is the only truly selective postemergence herbicide that eliminates warm season grassy weeds in cool season turf grasses.

New Chemistry for Superior Performance!

Acclaim translocates from the site of contact to the heart of weed growth – cleanly decomposing the entire weed after 21 days. Acclaim has no residual soil effect, and avoids the turf injury problems associated with other postemergence herbicides.

Hoechst-Roussel Agri-Vet Company

Route 202-206 North • Somerville, New Jersey 08876

Equipment

continued

Engineering Products Co (Power King)
Excel Industries Inc
Ford New Holland Inc
Gravely Intl Inc
Guest Industries Inc
Ingersoll Equipment Co
Steiner Corp
Wheel Horse Products Inc

Sod Cutters

Ames Co
Brouwer Turf Equipment Ltd
Earl J Crane Inc & Assocs
Cushman-Ryan/OMC Lincoln Div
Turfco Mfg Inc

Sod Equipment

Brouwer Turf Equipment Ltd
Earl J Crane Inc & Assocs

Sod Harvesters

Brouwer Turf Equipment Ltd

Soil Moisture Sensing Equipment

Howard S Crane Inc
Rain Bird Sales Inc

Soil Samplers

International Reforestation Suppliers
JISCO
LESCO Inc
Professional Turf Mfg
Salsco Inc
Westheffer Co

Soil Shredders

Lindig Mfg Corp
Royer Foundry & Machine Co

Soil Test Meters

Terracare Products Co

Sprayers

Agrotec Inc
Arborchem Products Co
B & G Equipment Co
Broyhill Co
Bush Hog
Country Mfg Inc
Earl J Crane Inc & Assocs
Deere & Co
Deutz-Allis Corp
DOB Distributors Inc

Encap Products Co
Finn Corp
Friend Mfg Corp
Great Northern Equipment Co
Jonathan Green Inc
Hahn Inc
Homelite Div
H D Hudson Mfg Co
International Reforestation Suppliers
Jacobsen Div
Kuker Industries
LESCO Inc
Maruyama US Inc
Master Mfg Co
Professional Turf Mfg
Richway Industries Ltd
Rigo Co
D B Smith & Co
Solo Inc
Southern Mill Creek Products Co
Spraying Devices Inc
Strong Enterprises Inc
Trebcor Corp
Vicon Farm Machinery Inc
Warren's Turf Nursery Inc
Westheffer Co
Wheel Horse Products Inc
Wheel Spray Corp

Sprayers, Measuring Equipment

Arborchem Products Co
LESCO Inc
Strong Enterprises Inc



1EC HERBICIDE

One Application Does It!

When applied thoroughly to non-drought-stressed grassy weeds from 3 leaves to 3 tillers in size, chances are once is all you'll need!

Apply to fine or tall fescue, perennial ryegrass, and Kentucky bluegrass.

Take Aim on crabgrass, goosegrass, barnyard grass, foxtail species, Panicum species and Johnson grass.

Reseeding and Mowing Convenience!

Fescues and ryegrass can be overseeded immediately following Acclaim application. Bluegrass can be overseeded after 21 days. And mowing just 24 hours after Acclaim application won't reduce efficacy.

Great Turf Deserves Acclaim!

As a professional, you take pride in having and maintaining lush green turf throughout the season. Acclaim can help you get the acclaim you deserve!

For information, contact your distributor or your local Hoechst-Roussel Agri-Vet Company representative.



Hoechst
Roussel



Equipment

continued

Spray Guns

Agrotec Inc
Arborchem Products Co
Broyhill Co
Encap Products Co
Friend Mfg Corp
Great Northern Equipment Co
Hypro Corp
Kuker Industries
LESCO Inc
Maruyama US Inc
Master Mfg Co
Professional Turf Mfg
Southern Mill Creek Products Co
Spraying Devices Inc
Strong Enterprises Inc
Tuflex Mfg Co
Westheffer Co

Spray Units

Agrotec Inc
Arborchem Products Co
Broyhill Co
Cushman-Ryan/OMC Lincoln Div
Friend Mfg Corp
Great Northern Equipment Co
Hahn Inc
Kuker Industries
LESCO Inc
Master Mfg Co

Nature's Touch
Professional Turf Mfg
D B Smith & Co
Southern Mill Creek Products Co
Spraying Devices Inc
Strong Enterprises Inc
Tuflex Mfg Co
Westheffer Co

Spray Units, Mixer Proportioners

Agrotec Inc
Arborchem Products Co
Broyhill Co
Great Northern Equipment Co
LESCO Inc
Nature's Touch
Southern Mill Creek Products Co
Strong Enterprises Inc

Spreaders

Ames Co
Brinly-Hardy Co
Bunton Co
Country Mfg Inc
Earl J Crane Inc & Assocs
Cushman-Ryan/OMC Lincoln Div
Danville Industries
Deere & Co
Deutz-Allis Corp

DOB Distributors Inc
Finn Corp
Gandy Co
Jonathan Green Inc
Hahn Inc
Herd Seeder Co
LESCO Inc
Maruyama US Inc
Precision Products Inc
Professional Turf Mfg
PSB Co
O M Scott & Sons Co
Seymour Mfg Co
Southern Mill Creek Products Co
Thompson Seeder Co
Vicon Farm Machinery Inc
Warren's Turf Nursery Inc
Westheffer Co
Wheel Horse Products Inc

Straw Blowers

Bowie Industries Inc
Howard S Crane Inc
Finn Corp
Reinco Inc

Stump Cutters

Badger Chipper Co
Burkeen Mfg Co

The Growing Choice

Hydrograssers & Power Mulchers

- Low Maintenance Design
- Dual and Quad "Hydro-Jet"
- Agitation with Verticle Homogenizers
- High Speed Mulch Grinder
- No Clog Mulch Chamber
- Direct Drive

Reinco Hydrograssers and Power Mulchers offer you the dependability you need because they are designed with the operator in mind. Our Hydrograssers range in capacity from 800 to 3500 gallons and feature easier to maintain "Hydro-Jet" agitation. Reinco Power Mulchers utilize time proven straight through drive while the M80C offers as standard a variable speed automated bale feed system.

Reinco

WRITE OR CALL TOLL FREE (800) 526-7687

P.O. Box 512, Plainfield, N.J. 07061-0512 (201) 755-0921

Dealer inquiries invited.

Circle No. 150 on Reader Inquiry Card

Back To Basics . . . Introducing The 1988 CL Series

New for '88

- Economical, "No Frills" design
- Available in 50", 60" and 72" cut
- Famous Kut-Kwick durability and safety



The CL Series is for Commercial/Lawn Users. Superior performances in both rough cut and refined mowing, at speeds to 11 miles per hour. Hydrostatic propulsion, 20 HP engine, low center of gravity, rear discharge "clamshell" deck, vertically articulating rider and big 23" steered wheel combine for added safety, operator comfort and control. The "CL" gives the commercial user a tough, low maintenance machine that mows better at top speed in either refined or rough conditions than other mowers at half the speed.

Kut-Kwick. More than forty years of experience building commercial mowers for professional users.

kut-kwick

P.O. Box 984
Brunswick, Georgia 31521
Telephone 912-265-1630

Call today for complete information.
Toll-free 1-800-248-5945
In GA. 1-800-592-5945



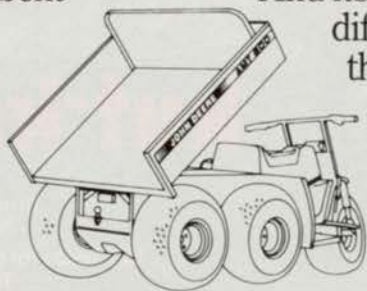
LANDSCAPING WITH

The new John Deere AMT™ 600 "All Materials Transport" treads so lightly, it'll barely bend your bent grass.

That's because even with a 600 pound payload and a 200 pound operator on

board, the AMT only puts down an average of 17 psi of ground pressure.

And its automotive-type differential allows the inside wheels to



The 48¼ x 43-in. box manually raises to a 45 degree angle.

turn slower than the outside wheels. So the AMT won't tear up your turf turning either.

But for all the features that won't leave a bad impression on your turf, there are even more that'll leave a good impression on you.

Like the way the AMT's



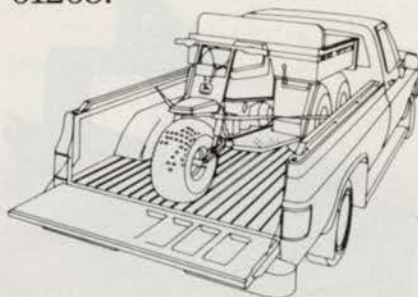
OUT LANDSCUFFING

powerful 8.5-hp drive system provides a 62-to-1 torque ratio for tremendous pulling power.

Or the way its box holds 12.5 cubic feet of material—and manually tilts too.

So if you're looking for a utility machine that won't sink into your landscape or

your budget, see your John Deere dealer. Or write John Deere, Dept. 84, Moline, IL 61265.



Nothing Runs Like a Deere®



1837-1987
150

AMT 600 transports easily in a standard size pickup.

SAFETY
live with it

Equipment

continued

Chipmore Mfg Co
Howard S Crane Inc
Heckendorn Mfg Co
Lindig Mfg Corp
Olathe Mfg Inc
Promark Products Inc
Vermeer Mfg Co

Sweepers

Atwater Strong Inc
Billy Goat Industries
Bomford & Evershed Ltd
Brinly-Hardy Co
Brouwer Turf Equipment Ltd
Bunton Co
J I Case Outdoor Power Equipment Div
Country Mfg Inc
Deere & Co
Giant-Vac Mfg Inc
Grasshopper Co
Gravely Intl Inc
Grazer Div
Ingersoll Equipment Co
Jacobsen Div
Mathews Co
Olathe Mfg Inc
Precision Products Inc
Steiner Corp
Tennant Co
Woods Div

Tanks, Fiberglass

Agrotec Inc
Arborchem Products Co
Broyhill Co
Friend Mfg Corp
Professional Turf Mfg
Raven Industries Inc
Southern Mill Creek Products Co
Spraying Devices Inc
Strong Enterprises Inc
Tuflex Mfg Co
Westheffer Co

Tanks, Metal

Agrotec Inc
B & G Equipment Co
Broyhill Co
Finn Corp
Friend Mfg Corp
Great Northern Equipment Co
LESCO Inc
Professional Turf Mfg
Westheffer Co

Tanks, Polyethylene

Agrotec Inc
B & G Equipment Co
Kuker Industries

LESCO Inc
Professional Turf Mfg
Raven Industries Inc
Westheffer Co

Tillers

Snapper Power Equipment

Tillers, Tractor-Mounted

Ariens Co
Bolens Corp
Bush Hog
Earl J Crane Inc & Assocs
Deere & Co
Deutz-Allis Corp
Gravely Intl Inc
Howard Rotavator Co
Ingersoll Equipment Co
Kubota Tractor Corp
Simplicity Mfg Inc
Steiner Corp
Wheel Horse Products Inc
Woods Div

Tool Boxes

Arbortech/A Scott Fetzer Co
Professional Turf Mfg

Sweeps What Others Miss

...also scrubs, removes snow

Heavy-duty TENNANT® 275

Exclusive II-SPEED™ sweeping with unsurpassed pick-up! Use standard speed for debris from sand to bricks and get up to 1/3 longer brush life than competitive makes. Switch in seconds to high velocity for light litter, paper, pine needles. Sweeps 53" path. 2-year/2,000 hour factory warranty (except normal wear items).



Converts to scrubber in minutes

Covers 50" path, 50,600 sq. ft./hr. Twin high-speed brushes with aggressive scrubbing action remove spills, stains, and soilage. Applies solution, scrubs, and picks up in one pass, leaving floors clean and squeegee-dry. Twin 20 gallon tanks hold 40 gallons solution.



Changes into snow remover in less than 20 minutes

Just add snow plow or broom attachment. Plow windrows snow right or left from 60" path. Broom cleans snow up to 63,000 sq. ft./hr. Clears snow quickly from sidewalks, driveways, parking lots. Rent, lease, or time-purchase plans available.



CALL TOLL FREE:

800-328-5727 EXT. 768A

Circle No. 162 on Reader Inquiry Card

Equipment

continued

Reading Body Works Inc
Woodstream Corp

Topdressers

Classen Mfg
Earl J Crane Inc & Assocs
Cushman-Ryan/OMC Lincoln Div
Jonathan Green Inc
Hahn Inc
Turfco Mfg Inc
Vicon Farm Machinery Inc

Tractors & Attachments

Ariens Co
Bolens Corp
Bomford & Evershed Ltd
Bunton Co
J I Case Outdoor Power Equipment Div
Earl J Crane Inc & Assocs
Cushman-Ryan/OMC Lincoln Div
Deere & Co
Deutz-Allis Corp
Engineering Products Co (Power King)
Ford New Holland Inc
Fuerst Brothers Inc
Gravely Intl Inc
Guest Industries Inc
Hahn Inc
Homelite Div
Ingersoll Equipment Co
Jacobsen Div
Kubota Tractor Corp
Massey-Ferguson Inc
Morbark Industries Inc
R L Parsons & Son (Bomford Center)
Simplicity Mfg Inc
Steiner Corp
Sumitomo Corp of America
Wheel Horse Products Inc

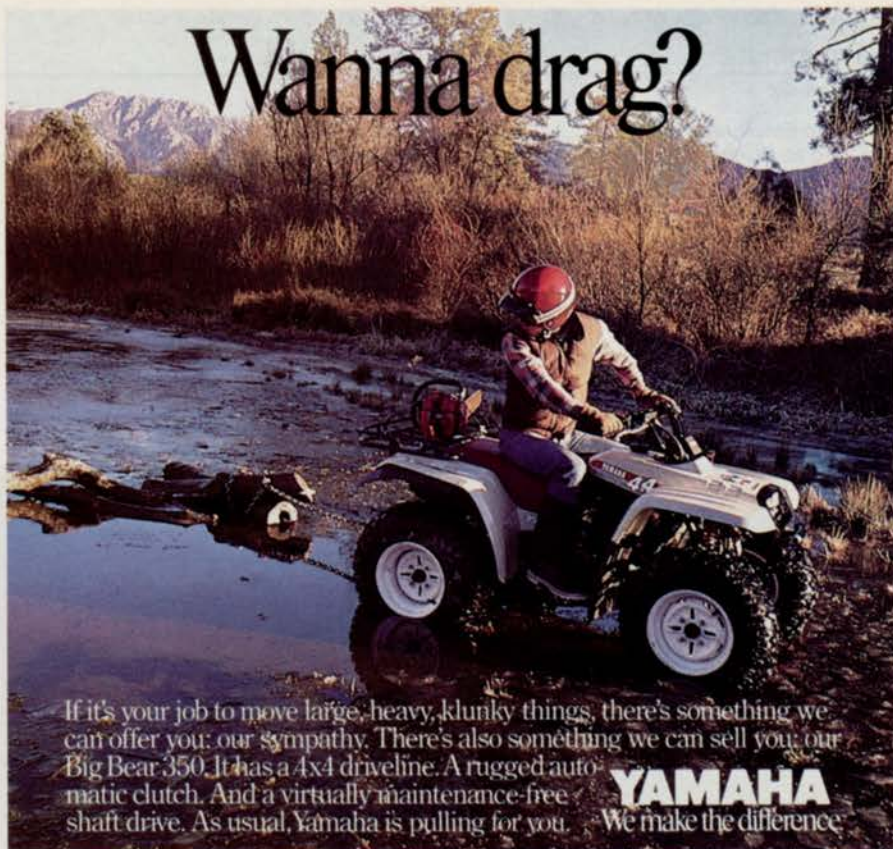
Trailers

Ariens Co
Broyhill Co
Burke Mfg Co
Country Mfg Inc
Howard S Crane Inc
Excel Industries Inc
E-Z-GO Textron
Giant-Vac Mfg Inc
Great Northern Equipment Co
Jacobsen Div
Kuker Industries
LESCO Inc
Magline Inc
Olathe Mfg Inc
Ravens Metal Products Inc
C L Reilly Tree Service & Mfg
Salsco Inc
Seaman-Parsons Corp
Snowco Inc
Steiner Corp
Wells Cargo Inc
Westheffer Co
Yazoo Mfg Co

Traps, Animal

International Reforestation Suppliers
Woodstream Corp

Wanna drag?



If it's your job to move large, heavy, klunky things, there's something we can offer you: our sympathy. There's also something we can sell you: our Big Bear 350. It has a 4x4 driveline. A rugged automatic clutch. And a virtually maintenance-free shaft drive. As usual, Yamaha is pulling for you.

YAMAHA
We make the difference

180 day limited warranty. Warranty terms are limited. See your Yamaha dealer for details. Dress properly for your ride with a helmet, eye protection, long sleeved shirt, long trousers, gloves and boots. Specifications subject to change without notice. Designed for off-road, operator use only. This product is to be used by one person only. Yamaha and the Specialty Vehicle Institute of America encourage you to ride safely and respect fellow riders and the environment. For further information regarding the SVIA rider course, please call 1-800-447-4700. Do not drink and drive. It is illegal and dangerous.

Circle No. 170 on Reader Inquiry Card

Tree Braces

Foresight Products Inc

Tree Cutters

International Reforestation Suppliers
Seymour Smith & Son Inc

Tree Injectors

Arborchem Products Co
Doggett Corp
LESCO Inc
J J Mauget Co
Rigo Co
Strong Enterprises Inc
Trebort Corp
Westheffer Co

Tree Movers, Spades

Big John Tree Transplanter Mfg Inc
Burke Mfg Co
Vermeer Mfg Co

Tree Protectors

Foresight Products Inc
International Reforestation Suppliers

Trenchers

American Trencher Inc
Burke Mfg Co

Charles Machine Works Inc (Ditch Witch)
Ford New Holland Inc
MoTrim Inc
Olathe Mfg Inc
Seaman-Parsons Corp
Vermeer Mfg Co

Trimmers

Bunton Co
Deere & Co
DOB Distributors Inc
Green Machine
Hoffco Inc/Comet Industries
Homelite Div
International Reforestation Suppliers
Jacobsen Div
Lawnboy Product Group
LESCO Inc
Maruyama US Inc
Reach All Inc
Shindaiwa Inc
Snapper Power Equipment
Solo Inc
Stanley Hydraulic Tools
Wheel Horse Products Inc
Yazoo Mfg Co

Trucks/Truck Bodies

Arbortech/A Scott Fetzer Co
Hi-Ranger Inc
Nissan Motor Corp
Professional Turf Mfg
Reading Body Works Inc

Equipment

continued

Strong Enterprises Inc
Supreme Corp

Vacuums

Atwater Strong Inc
Billy Goat Industries
Brouwer Turf Equipment Ltd
Giant-Vac Mfg Inc
Grazer Div
Ingersoll Equipment Co
Promark Products Inc

Ransomes Inc
Simplicity Mfg Inc
Snapper Power Equipment
Steiner Corp
Turf Vac Corp
Woods Div
Yard Vac Products Inc

Vehicles, All-Terrain

CHI Industries Inc
Columbia Parcar Corp

Howard S Crane Inc
Deere & Co
Yamaha

Vehicles, Electric

Club Car Inc
Columbia Parcar Corp
Cushman-Ryan/OMC Lincoln Div
E-Z-GO Textron
Melex USA Inc
Noland Car Co
Taylor-Dunn
Trojan Battery Co
Yamaha

Vehicles, Turf

Arbortech/A Scott Fetzer Co
CHI Industries Inc
Club Car Inc
Columbia Parcar Corp
Cushman-Ryan/OMC Lincoln Div
Daihatsu America Inc
Deere & Co
Engineering Products Co (Power King)
E-Z-GO Textron
Hahn Inc
Jacobsen Div
Noland Car Co
Olathe Mfg Inc
Terrain Vehicles Inc
Toro Co
Turf Vac Corp
Yamaha

Vibratory Plows

Burkeen Mfg Co
Charles Machine Works Inc (Ditch Witch)
Seaman-Parsons Corp
Turfco Mfg Inc
Vermeer Mfg Co

Washers, Pressure

Broyhill Co
Deere & Co
Kubota Tractor Corp
Kuker Industries
D B Smith & Co
Strong Enterprises Inc
Westheffer Co
Wheel Horse Products Inc



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Cleveland, OH 44130



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Advanced Drainage Systems Inc
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Columbus OH 43221
614-457-3051

Agro-Chem Inc
See Nature's Touch

Agrotec Inc
Hwy 35 N
PO Box 49
Pendleton NC 27862
919-585-1222

American Playground Device Co
1801-31 S Jackson
PO Drawer 2599
Anderson IN 46011
317-642-0288

American Road Equipment Co
4201 N 26 St
Omaha NE 68111
402-451-2575

American Trencher Inc
503 Gay St
Box 266
Delhi IA 52223
319-922-2981

Ames Co
Camden & Broadway
Parkersburg WV 26101
304-424-3000

AMETEK/Plymouth Products Div
502 Indiana Ave
Sheboygan WI 53081
414-457-9435

Aquatrols Corp of America Inc
1432 Union Ave
Pennsauken NJ 08110
609-665-1130

Arborchem Products Co
PO Box 1567
Fort Washington PA 19090
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414-756-2141

★ Atlantic Construction Fabrics Inc
10201 Jefferson Davis Hwy
Richmond VA 23237
804-271-0633
800-448-3636

Atwater Strong Inc
6284 Waterloo
Box 68
Atwater OH 44201
216-947-2344

Badger Chipper Co
6 Johnson Ct
Bay City MI 48706
517-894-4579

B & G Equipment Co
Rte 611
PO Box 130
Plumsteadville PA 18949
215-766-8811
800-544-8811

★ Barebo Inc/Otterbine
R D 2
PO Box 217
Emmaus PA 18049
215-965-6018

BASF Corp Fibers Div
Geomatrix Systems
Enka NC 28728
704-667-7713

★ Berkeley Pumps
3055 Research Dr Ste 100
Richmond CA 94806
415-843-9400

Big John Tree Transplanter Mfg Inc
PO Box 608
Heber Springs AR 72543
501-362-6181

BigToys
2601 S Hood St
Tacoma WA 98409
206-572-7611

★ Billy Goat Industries
1803 S Jefferson
Lee's Summit MO 64063
816-524-9666

BlueBird Intl Inc
2778 S Tejon
Englewood CO 80110
303-781-4458

Bolens Corp
215 S Park St
Port Washington WI 53074
414-284-5521

Bomford & Evershed Ltd
Salford Priors
Nr Evesham
Worcs England WR11 5SW
(0789) 773383

Bomford Center
See R L Parsons & Son

Equipment Companies

continued

- ★ **Bowie Industries Inc**
1004 E Wise St
PO Box 931
Bowie TX 76230
817-872-1106
800-433-0934
Telex: 887844
- Briggs & Stratton Corp**
123-01 W Worth St
Milwaukee WI 53222
414-259-5333
- Brillion Iron Works Inc**
200 Park Ave
Brillion WI 54110
414-756-2121
- Brinly-Hardy Co**
340 E Main St
Louisville KY 40202
502-585-3351
- ★ **Brouwer Turf Equipment Ltd**
RR 2
Woodbine Ave
Keswick ON Canada L4P 3E9
416-476-4311
Telex: 065-24161
7320 Haggerty Rd
Canton MI 48187
313-459-3700
- Broyhill Co**
N Market Sq
Dakota City NE 68731
402-987-3412
- Buckner Irrigation**
4381 N Brawley Ave
Fresno CA 93711
209-275-0500
- ★ **Bunton Co**
4303 Poplar Level Rd
PO Box 33247
Louisville KY 40232
502-966-0550
Telex: 204-340
- Burkeen Mfg Co**
11200 High Point Cove
Olive Branch MS 38654
601-895-4150
- Bush Hog**
Div Allied Products Corp
2501 Griffin Ave
Selma AL 36701
205-872-6261
- Cambridge Soil Services of America Inc**
106 Robert Gene
Glencoe AL 35905
205-492-7847
- J I Case Outdoor Power Equipment Div**
700 State St
Racine WI 53404
414-636-6011
- A B Chance Co**
210 N Allen St
Centralia MO 65240
314-682-8450
- Charles Machine Works Inc (Ditch Witch)**
W Fir Ave
PO Box 66
Perry OK 73077
405-336-4402
800-654-6481
- CHI Industries Inc**
PO Box 1148
Benton Harbor MI 49022
616-849-3400
- Chipmore Mfg Co**
Box 671
Bay City MI 48707
517-894-4578
- J A Cissel Mfg Co**
Squankum Yellowbrook Rd
PO Box 339
Farmingdale NJ 07727
201-938-6600
- Classen Mfg**
1403 Roach
Norfolk NE 68701
402-371-2294
- Club Car Inc**
4152 Washington Rd
Augusta GA 30907-0658
404-863-3000
- Columbia Parcar Corp**
One Golf Car Rd
Deerfield WI 53531
800-222-GOLF
- Continental Custom Bridge Co**
Rte 5 Box 178
Alexandria MN 56308
612-852-7500
- Country Mfg Inc**
333 Salem Ave Ext
PO Box 104
Fredericktown OH 43019
614-694-9926
- Earl J Crane Inc & Assocs**
3975 County Rd 19
Tiffin OH 44883
419-447-8313
- Howard S Crane Inc**
Box 88
Oneida NY 13421
315-363-3390
- ★ **Cushman-Ryan/OMC Lincoln Div**
Outboard Marine Corp
900 N 21 St
PO Box 82409
Lincoln NE 68501
402-475-9581
800-228-4444
- ★ **Daihatsu America Inc**
Dept C
4422 Corporate Center Dr
Los Alamitos CA 90720
714-761-7000
- Dandl Mfg Co**
290 Fairchild St
- Po Box 687**
Chico CA 95927
916-891-5163
- Danville Industries**
Box 12
Danville KS 67036
316-962-5292
- Dedoes Industries Inc**
91 Roberts Rd
Ossineke MI 49766
517-471-5413
- ★ **Deere & Co**
John Deere Rd
Moline IL 61265
309-752-8000
- Deutz-Allis Corp**
PO Box 933
Milwaukee WI 53201
414-475-3413
- Didier Log Splitters**
7777 N 73rd St
Milwaukee WI 53223
414-354-2310
- Dixon Industries Inc**
Airport Industrial Park
Coffeyville KS 67337
316-251-2000
- DOB Distributors Inc**
12805 Eckmoor Rd
Silver Spring MD 20904
301-622-9397
- Doggett Corp**
Cherry St
Lebanon NJ 08833
201-236-6335
- E I DuPont de Nemours & Co**
1007 Market St
Wilmington DE 19898
302-992-6161
- Earth Energy Systems Inc**
See Winco/ENERGY Corp
- ★ **Encap Products Co**
PO Box 278
Mount Prospect IL 60056
312-593-6464
- Engineering Products Co (Power King)**
PO Box 1510
Waukesha WI 53187
414-785-0786
- ★ **Excel Industries Inc**
200 S Ridge Rd
PO Box 7000
Hesston KS 67062
316-327-4911
800-835-3260
- Exmark Mfg Co**
PO Box 748
Beatrice NE 68310
402-223-4010
- Exxon Chemical Americas**
Hwy 78 W

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Summerville SC 29483
803-875-8157

E-Z-GO Textron
PO Box 388
Augusta GA 30913
404-798-4311

- ★ Fairmont Hydraulics Div Fairmont Railway
Motors-Harsco Corp
415 N Main St
Fairmont MN 56031
507-238-4357

Fanno Saw Works
PO Box 628
Chico CA 95927
916-895-1762

Feldmann Engineering & Mfg Co
520 Forest Ave
PO Box 153
Sheboygan Falls WI 53085
414-467-6167

- ★ Finn Corp
9281 LeSaint Dr
Fairfield OH 45014
513-874-2818 (OH-collect)
800-543-7166

Ford New Holland Inc
500 Diller Ave
New Holland PA 17557
717-354-1618

Ford Tractor Operations
See Ford New Holland Inc

Foresight Products Inc
10780 Irma Dr #22
Northglenn CO 80233
303-457-0222
800-325-5360

Franklin Electric
400 Spring St
Bluffton IN 46714
219-824-2900

Friend Mfg Corp
4441 Prospect St
PO Box 385
Gasport NY 14067
716-772-2622

Fuerst Brothers Inc
PO Box 356
Oregon IL 61061
815-732-3239
800-435-9630

FXG Corp
3 Sullivan St
Woburn MA 01801
617-933-8428

Gandy Co
528 Gandrud Rd
Owatonna MN 55060
507-451-5430

Giant-Vac Mfg Inc
11 Machine Shop Rd
Box 195
South Windham CT 06266
203-423-7741

★ Glenmac Inc
1805 Second Ave SW
PO Box 2135
Jamestown ND 58402
701-252-9300

★ Goossen Industries & Construction
927 W Court St
PO Box 705
Beatrice NE 68310
402-228-4226
800-228-6542

Grasshopper Co
Old Hwy 81 S
Moundridge KS 67107
316-345-8621

★ Gravely Intl Inc
One Gravely Lane
Clemmons NC 27012
919-766-4721

★ Grazer Div Willsey-D Inc
130 Main St
PO Box 460
Maple Hill KS 66507
913-663-2228

Great Northern Equipment Co
3550 Great Northern Ave
Springfield IL 62707
217-787-9870

Jonathan Green Inc
Squankum-Yellowbrook Rd
PO Box 326

Farmingdale NJ 07727
201-938-7007 (NJ)
800-526-2303

Green Machine Div HMC
PO Box 560
Long Beach CA 90810-0560
213-603-9888

Guest Industries Inc
3601 Winsted Rd
Torrington CT 06790
203-482-1118
800-243-5390

Hahn Inc
1625 N Garvin St
Evansville IN 47711-4596
812-428-2027

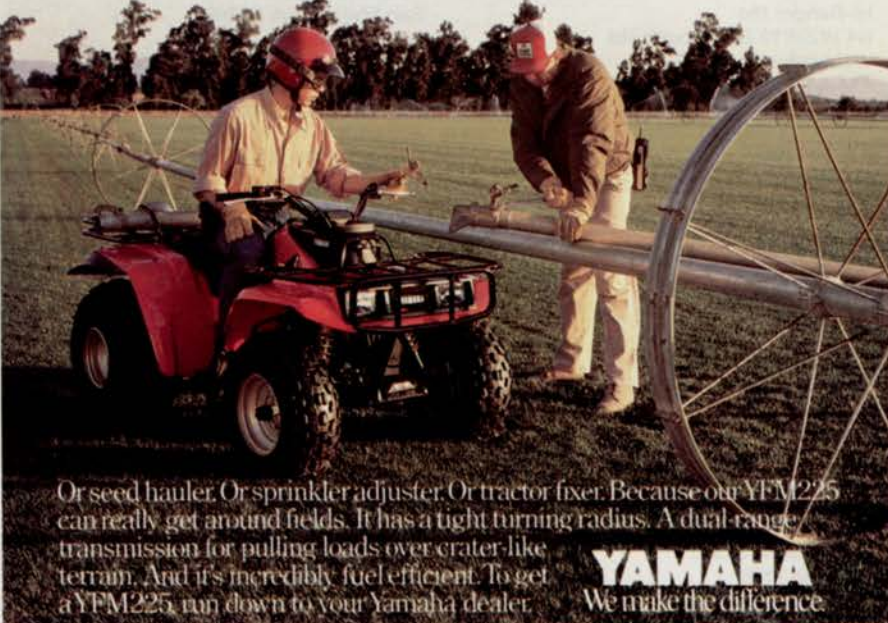
Hancor Inc
401 Olive St
Findlay OH 45840
419-422-6521

Clifford B Hannay & Son Inc
600 E Main St
Westerlo NY 12193
518-797-3791

Carl Heald Inc
See CHI Industries Inc

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Equipment Companies

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Herd Seeder Co
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Logansport IN 46947
219-753-6311

Hi-Ranger Inc
N4 W22610 Bluemound Rd
Waukesha WI 53187
414-547-1000

Hoechst Celanese Corp
PO Box 5887
Spartanburg SC 29304
800-845-7597

Hoffco Inc/Comet Industries Div Hoffco
358 NW "F" St
Richmond IN 47374
317-966-8161

Homelite Div Textron Inc
14401 Carowinds Blvd
Charlotte NC 28217
704-588-3200

Howard Rotavator Co
102 Howard Ave
PO Box 7
Muscoda WI 53573
608-739-3106

H D Hudson Mfg Co
3439 Merriam Dr

Overland Park KS 66203
913-677-0094

Hunter Industries
1940 Diamond St
San Marcos CA 92069
619-744-5240

Hypro Corp
A Lear Siegler Sub
375 Fifth Ave NW
New Brighton MN 55112
612-633-9300

Ingersoll Equipment Co
119 S First St
Winneconne WI 54986
414-582-4455

Inject-O-Meter Mfg Co
820 Thornton St
Clovis NM 88101
505-763-4461

International Reforestation Suppliers
2100 W Broadway
Eugene OR 97405
800-321-1037

Irri-Trol Mfg Inc
27940 Beale Ct
Valencia CA 91355
805-257-2333

★ Jacobsen Div Textron Inc
1721 Packard Ave
Racine WI 53403-9988
414-637-6711

JISCO
1941 Karlin Dr
St Louis MO 63131
314-966-2420

Kawasaki Motors Corp USA Engine C
650 Industrial Circle S
PO Box 504
Shakopee MN 55379
612-445-6060

F D Kees Mfg Co
700-800 Park Ave
Beatrice NE 68310
402-223-2391

KEM Enterprises Inc
1312 Sunset Pl NE
Tacoma WA 98422
206-927-4430

Kinco Mfg
170 N Pascal
St Paul MN 55104
612-644-4666

★ Kohler Engine Div Kohler Co
444 Highland Dr
Kohler WI 53044
414-457-4441

★ Kubota Tractor Corp
550 W Artesia Blvd
Compton CA 90220
213-537-2531

Kuker Industries
13709 Industrial Rd
Omaha NE 68137
402-895-3050

★ Kut-Kwick Corp
1927 Newcastle St
Brunswick GA 31521
912-265-1630

Landscape Structures Inc
601 S Seventh St
Rte 3
Delano MN 55328
612-972-3391

Claude Laval Corp
1911 N Helm
Fresno CA 93727
209-255-1601

Lawnboy Product Group
PO Box 181120
Memphis TN 38181-1120
901-795-9204

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When your turf returns in the spring, it will be well nourished and rested, thicker and greener—ready to take on your course's toughest assignments.

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TOTAL TURF CARE
A division of Lebanon Chemical Corporation
P.O. Box 180 • Lebanon, PA 17042

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★ Little Beaver Inc
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Livingston TX 77351
409-327-3121
Telex: 386596

Locke Mfg Inc
1100 Boston Ave
Bridgeport CT 06610
203-333-3157

Magee Machine & Mfg
4300 Forney Rd
Mesquite TX 75149
214-285-2554

Magline Inc
503 Mercer St
Pinconning MI 48650
517-879-2411

Mar-Mac Mfg Co
PO Box 278
McBee SC 29101
803-335-8211

Maruyama US Inc
15436 NE 95 St
Redmond WA 98052
206-885-0811

Massey-Ferguson Inc
1901 Bell Ave

Des Moines IA 50315
515-247-2011

Master Mfg Co
119 Main St
PO Box 3806
Sioux City IA 51102
712-258-0108

Mathews Co
500 Industrial Ave
Crystal Lake IL 60012
815-459-2210

J J Mauget Co
2810 N Figueroa St
Los Angeles CA 90065
213-227-1482

Melcher Mfg Co
E 6017 Mission
Spokane WA 99212
509-535-7626

Melex USA Inc
1200 Front St Ste 101
Raleigh NC 27609
800-334-8665

Melroe Co
112 N University Dr
PO Box 6019

Fargo ND 58108-6019
701-241-8700

Middlesworth Engineering & Mfg Inc
1050E 200N
PO Box 165
Greentown IN 46936
317-628-2230

3M Occupational Health & Safety
Products Div
Bldg 220-7W-02
3M Center
St Paul MN 55144-1000
800-328-1667

Morbark Industries Inc
PO Box 1000
Winn MI 48896
517-866-2381

Motorola Control Systems
3039 Kilgore Rd Ste 190
Rancho Cordova CA 95670
916-635-8884

MoTrim Inc
240 Steubenville Ave
Cambridge OH 43725
614-439-2725

Mott Corp
500 Shawmut Ave
PO Box 518
LaGrange IL 60525
312-354-7220

Moyer & Son Inc
113 E Reliance Rd
Souderton PA 18964
800-345-0419
800-451-1137 (PA)

Nalco Chemical Co
One Nalco Center
Naperville IL 60566-1024
312-961-9500

National Mower Co
700 Raymond Ave
St Paul MN 55114
612-646-4079

Nature's Touch
11150 W Addison St
Franklin Park IL 60131
312-455-6900

New Holland
See Ford New Holland Inc

★ Nissan Motor Corp
18501 S Figueroa
PO Box 191
Gardena CA 90247
213-532-3111

Noland Car Co
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PO Box 190
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904-427-9645

North American Green Inc
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Simply Operated with quick responding steering levers and comfortable secure ride plus complete view of the full floating deck.

Counter Rotating drive wheels powered by dual hydrostatic transmissions provide a true zero turning radius.

Tilt Back Deck eases cleanout, servicing blades and spindles.



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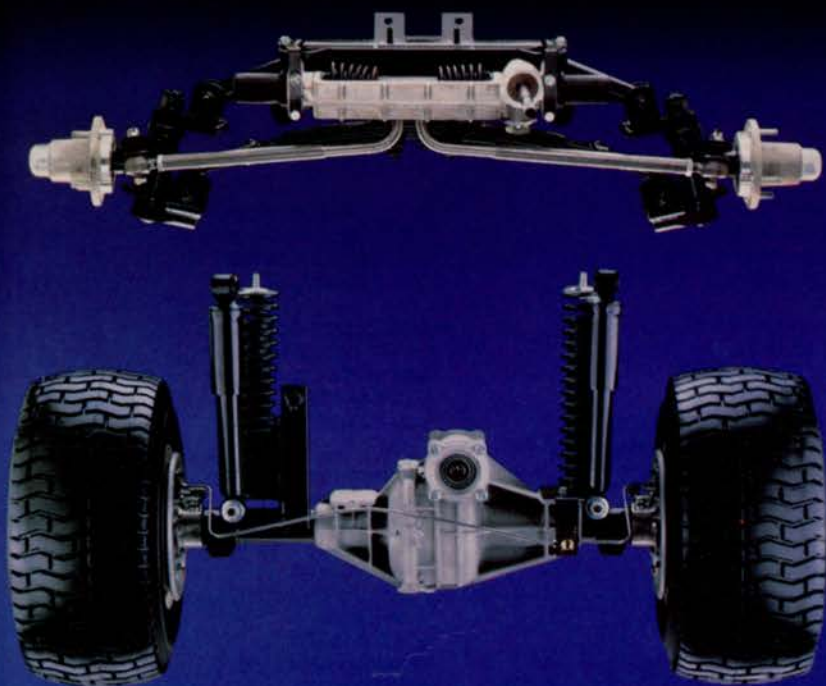
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Independent front suspension and the industry's only center takeoff

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812-867-6632 | Mesa AZ 85202
602-966-2931
800-528-8224 | Glenview IL 60025
312-729-2300 |
| ★ Olathe Mfg Inc
100 Industrial Pkwy
Industrial Airport KS 66031
913-782-4396
800-255-6438 | Promark Products Inc
330 Ninth Ave
City of Industry CA 91746
818-961-9783 | Royer Foundry & Machine Co
158 Pringle St
Kingston PA 18702
717-287-9624 |
| Oly-Ola Sales Inc
54 E St Charles Rd
Villa Park IL 60181
312-833-3033
800-EDGINGS | PSB Co Div White Castle System Inc
555 W Goodale St
Columbus OH 43216
614-228-5781 | Salsco Inc
105 School House Rd
Cheshire CT 06410
203-271-1682 |
| R L Parsons & Son (Bomford Center)
7155 St Rt 142 SE
West Jefferson OH 43162
614-879-7601
FAX: 614-879-7603 | Rain Bird Sales Inc
145 N Grand Ave
Glendora CA 91740
818-963-9311 | Sarlo Power Mowers Inc
2315 Anderson Ave
PO Box 1169
Fort Myers FL 33902
813-332-1955 |
| ★ Phillips Fibers Corp
PO Box 66
Greenville SC 29602
803-242-6600 | ★ Ransomes Inc
One Bob Cat Lane
Johnson Creek WI 53038
414-699-2000 | ★ Scag Power Equipment Inc
W226 N900 Eastmound Dr
Waukesha WI 53186
414-544-4090 |
| Pierce Corp
10 N Central St
Eugene OR 97402
503-485-3111 | Raven Industries Inc
205 E Sixth St
Sioux Falls SD 57117
605-336-2750 | ★ O M Scott & Sons Co
14111 Scottslawn Rd
Marysville OH 43041
513-644-2900 (OH)
800-543-0006 |
| Plastics Div Eberhart Steel Products
417 E Jefferson Blvd
Mishawaka IN 46544
219-259-2461 | Ravens Metal Products Inc
PO Box 1168
Parkensburg WV 26102
304-428-8030 | Seaman-Parsons Corp
W161 N9116 Hayes Ave
Box 630
Menomonee Falls WI 53051
414-251-2400 |
| Playworld Systems
315 Cherry St
New Berlin PA 17837
717-966-1015 (PA)
800-233-8404 | Raymond Corp
S Canal St
Greene NY 13778
607-656-2311
800-235-7200 | Sea-Ranch
Rte 2 Box 604
Sheridan AR 72150
501-942-2515 |
| Power Lawnmower Parts Inc
1920 Lyell Ave
PO Box 60860
Rochester NY 14606-0860
716-458-0800 | Reach-All Inc
1300 Terminal Dr
Duluth MN 55816
218-722-9200 | Sensation Div Gilson Brothers
Cty Trunk PP
PO Box 152
Plymouth WI 53073
414-893-1011 |
| Precision Laboratories Inc
PO Box 127
Northbrook IL 60065
312-498-0800 | Reading Body Works Inc
Hancock Blvd & Gerry St
Reading PA 19611
215-775-3301 | Seymour Mfg Co
500 N Broadway
Seymour IN 47274
812-522-2900 |
| Precision Products Inc
2415 S Grand Ave E
Springfield IL 62708
217-528-1311 | C L Reilly Tree Service & Mfg
RR 1 Box 73
Crystal ND 58222
701-657-2369 | Shindaiwa Inc
11975 SW Herman Rd
Sherwood OR 97140
503-692-3070 |
| Presto Products Inc
670 N Perkins St
PO Box 2399
Appleton WI 54913
414-739-9471 | ★ Reinco Inc
520 North Ave
Plainfield NJ 07061
201-755-0921 | Simplicity Mfg Inc
500 N Spring St
Port Washington WI 53074
414-377-5450 |
| Howard Price Turf Equipment
18155 Edison Ave
Chesterfield MO 63017
314-532-7000 | Richway Industries Ltd
525 Main St
Janesville IA 50647
319-987-2976
800-553-2404 | D B Smith & Co
414 Main St
Utica NY 13501
315-735-5223 |
| Professional Turf Mfg
1801 Industrial Park Rd
Normal IL 61761
309-452-2155
800-367-9091 | Rigo Co
4701 W Hwy 146
PO Box 189
Buckner KY 40010
502-222-1456
800-626-3552 | Seymour Smith & Son Inc
900 Main St
Oakville CT 06779
203-274-2558 |
| Progressive Electronics Inc
325 S El Dorado | Roseman Mower Co
2300 Chestnut Ave | Smith Precision Products
1299 Lawrence Dr
Newbury Park CA 91320
805-498-6616 |



Dave Riedman, Superintendent
Crooked Stick Golf Course
Indianapolis, Indiana

"Nutriculture® maintains my course and my reputation."

Forget that it's one of the toughest courses in the country or that many of the top players in the sport swing here in major tournaments — what you first notice about Crooked Stick is the turf.

The greens, the tees, the fairways...they're all green, full and rich — an appearance you would not have recognized here just a season before.

"Last season, Crooked Stick underwent major construction," says Dave Riedman. "We added 16 greens, major bunker and depression work, new tees...everything. This season I told my distributor what I needed, what I wanted to do and what material I wanted to use. He recommended Plant Marvel's Nutriculture."

As superintendent of Crooked Stick Golf Course, Dave relies on Nutriculture's balanced and total nutrient feed plus its ability to tank mix with fungicides, herbicides and insecticides.

"Nutriculture is great to apply because spoon-feeding is all we do. It goes right where I want it and not outside the greens or in the lakes. Nutriculture makes fertilizing a whole lot easier and a whole lot quicker."

With Plant Marvel's 100% water soluble Nutriculture, you'll readily see deep color, swift green-up plus you get the control you need. To learn more about incorporating Nutriculture into your fertilizing program, contact your Plant Marvel distributor or write to us for our free professional guide to improved turf and our pamphlet on Spoon-feeding with Nutriculture.

Plant Marvel Laboratories, Incorporated, 317 East 16th Street, Chicago Heights, IL 60411, Telephone (312) 757-7500.



Nutriculture...The First Name In Water Soluble Fertilizer

 **Plant
Marvel**

Equipment Companies

continued

★ Snapper Power Equipment
535 Macon Rd
McDonough GA 30253
404-957-9141

Snowco Inc
4350 McKinley St
PO Box 12067
Omaha NE 68112
402-453-2200

Solo Inc
5100 Chestnut Ave
Newport News VA 23605
804-245-4228

Southern Mill Creek Products Co
5414 N 56 St
Tampa FL 33610
813-626-2111

Spraying Devices Inc
PO Box 3107
Visalia CA 93278
209-651-1306

★ Standard Golf Co
220 E Fourth St
PO Box 68
Cedar Falls IA 50613
319-266-2638

Stanley Hydraulic Tools
3810 SE Naef Rd
Milwaukie OR 97267
503-659-5660

Sta-Rite Industries Inc
725 Ann St
Delavan WI 53115
414-728-5551

Steiner Corp
930 Penn Ave
PO Box 85
Orrville OH 44667
216-683-0055

Strong Enterprises Inc
14090 SW 144 Ave Rd
Miami FL 33186
305-235-0967

Strong Mfg Co
N US Hwy 79
PO Box 8068
Pine Bluff AR 71611
501-535-4753

★ Sumitomo Corp of America
Machinery Dept
345 Park Ave
New York NY 10154

Supreme Corp
16500 CR 38
PO Box 463
Goshen IN 46526
219-642-4888

Tanaka USA
22121 Crystal Creek Blvd SE
Bothell WA 98021
206-481-2000

Taylor-Dunn
2114 W Ball Rd

Anaheim CA 92804
714-956-4040

Tecumseh Products Co
900 North St
Grafton WI 53024
414-377-2700

★ Teledyne Total Power
3409 Democrat Rd
Memphis TN 38118
901-365-3600

Telsco Industries
See Weather-matic

★ Tennant Co
1111 Douglas Dr
PO Box 701
Minneapolis MN 55440
612-540-1229
800-328-5727 ext 768A

Terracare Products Co
Hwy 22 & 33
Pardeeville WI 53954
608-429-3402

Terrain Vehicles Inc
221 Mitchell Court
PO Box 418
Addison IL 60101
312-953-8747

Thompson Seeder Co
US Hwy 35 S
PO Box 776
Logansport IN 46947
219-753-6366

★ Toro Co
8111 Lyndale Ave S
Bloomington MN 55420
612-887-8805

Toro Co Irrigation Div
5825 Jasmine St
Riverside CA 92504
714-688-9221

★ Trebor Corp
4045-A Jonesboro Rd
Forest Park GA 30050
404-366-0957
800-331-1449
Telex: 759-353

Trojan Battery Co
12380 Clark St
Santa Fe Springs CA 90670
213-946-8381
800-423-6569

Tuflex Mfg Co
1406 SW Eighth St
Pompano Beach FL 33060
305-785-6402

Turfco Mfg Inc
3456 N Washington Ave
Minneapolis MN 55412
612-588-0741

Turf Vac Corp
15701 Graham St

Huntington Beach CA 92649
714-898-9382

Vermeer Mfg Co
New Sharon Rd
Box 200
Pella IA 50219
515-628-3141

Vicon Farm Machinery Inc
3741 Cook Blvd
PO Box 6313
Chesapeake VA 23323
804-485-1600

Vrisimo Mfg Co
PO Box 699
Ceres CA 95307
209-537-5746

Waldon Inc
201 W Oklahoma
Fairview OK 73737
405-227-3711

Warren's Turf Nursery Inc
Cordelia & Chadbourne Rds
PO Box 459
Suisun City CA 94585
707-422-5100

Weather-matic
3301 W Kingsley Rd
Garland TX 75041-2207
214-278-6131

★ Wells Cargo Inc
McNaughton St
PO Box 728-749
Elkhart IN 46515
219-264-9661

★ Westendorf Mfg Co
Hwy 175
PO Box 29
Onawa IA 51040
712-423-2762

Western Wood Structures Inc
PO Box 130
Tualatin OR 97062-0130
503-692-6900

Westheffer Co
1235 N Third St
Lawrence KS 66044
913-843-1633

Wheel Horse Products Inc
515 W Ireland Rd
South Bend IN 46614
219-291-3112

Wheel Spray Corp
PO Box 97
Delafield WI 53018
414-646-8640

Wilbur-Ellis Co dba Rigo Co
See Rigo Co

Winco/Energx Corp
245 E Sixth St
St Paul MN 55101-1988
612-293-0740



Melanie Reinhold Sawka with Excel Hustler Model 400

Smart Investment

"No question about it, the switch to Excel Hustler has been a very positive move."

Melanie Reinhold Sawka, owner and president of Wm. Reinhold Landscape, Inc., oversees operation of a large commercial landscape maintenance and contracting business with offices in two states: Flat Rock, Michigan and Memphis, Tennessee. Her client list reads like a National Who's Who: Ford Motor Company, Federal Express,

Detroit Diesel Allison and Federal-Mogul Corporation, to name a few.

And, what brand of turf equipment does she buy and use?

"We have used Excel Hustler products exclusively for the past three years, and we are very pleased," says Melanie. "We currently operate 12 Hustler units in our two locations; a combination of Model 295s and the new Model 400s with the big Ford engines...Hustler offers us great dependability and maneuverability." That's the Hustler story of "Productive Innovation", made

possible by Hustler's dual-hydrostatic drive concept with twin-lever steering and true zero-degree turning radius. You can even mow square corners without wasted motion.

"The Hi-Lift" BAC-VAC™ which we use on the Model 400s is just excellent," Melanie points out. "It's especially great for spring and fall cleanup jobs."

What about other mower brands? "We tried the others in the past, but now we use Hustler exclusively," says Melanie. "I have no reason to try anything else again, the mechanics are happy, the operators are happy, so why change!"

Why not visit your dealer soon and put a Hustler to work for you. Or, call toll free for more information.

1-800-835-3260

In Kansas 1-316-327-4911

Excel Industries, Inc.
Box 7000
Hesston, KS 67062-2097

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**Hustler Tough
And Built To Last!**



HUSTLER
Turf & Grounds Equipment



Model 251
18 hp, 50"



Model 262
18 hp, 60"



Model 275
23 hp, 72"



Model 320
21.5 hp, 72"



Model 340
28.5 hp, 72"



Model 400
34 hp, 72"



Model 602D
32 hp, 72" hillside

Circle No. 120 on Reader Inquiry Card

Equipment Companies

continued

Telex: 29-0740 ENERGY STP
Fax: 612-292-0851

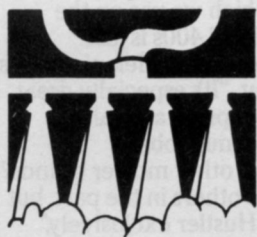
Woods Div Hesston Corp
Hwy 2 S
PO Box 1000
Oregon IL 61061
815-732-2141

Woodstream Corp
69 N Locust St
Lititz PA 17543
717-626-2125

★ Yamaha
6555 Katella Ave
Cypress CA 90630
714-761-7304
800-447-4700

Yard Vac Products Inc
3849 E Ventura
Fresno CA 93702
209-251-7125

Yazoo Mfg Co
3650 Bay St
Jackson MS 39216
601-366-6421



3. Chemicals

This section is broken down by chemical product with companies providing that chemical listed below. Products common name (in parentheses) and brand names are listed on the line following the company name.

Absorbefacient (Aquatic)

Aquashade Inc
(dyes) Aquashade
Nalco Chemical Co
Nalco 2151, Nalquatic, Nalco-Trol,
Nalco-Trol II, Sta-Put

Adjuvant/Carrier

Arborchem Products Co
(Proprietary) Basal Oil, Clean Cut Plus
Pine, Clean Cut, Clean Cut Plus Citrus

Chevron Chemical Co
(Alkylarylpolyoxyethylene, glycols, free fatty acids, isopropanol) Ortho X-77
W A Cleary Chemical Co
Super Wet, Super Wet 15G
Cumberland Intl Corp
Ag-Chem Activator
Fermenta Plant Protection Co
(Fatty amine ethoxylate) Frigate
Fermone Chemicals Inc
(Protein feeding stimulant) Entice
Leffingwell
(Non-ionic surfactants) Activate, Super Savol; (NPK, secondary & micronutrients) Sorba-Spray; Sorbacide
LESCO Inc
LESCO Spreader Sticker, LESCO-WET
Nature's Touch
(Plant/microbial by-products, enzymes) Nutra-Aid
PBI-Gordon Corp
(Petroleum oil-paraffin base, surfactant blend) Adjumer
Precision Laboratories Inc
Compliment, Balance, Pen-A-Trate, Chem-Stik
Rigo Co
(Paraffin base petroleum oil, polyol fatty acid esters) Red-Top Mor-Act
Southern Mill Creek Products Co
(Polyvinyl polymer) Nalco-Trol
UAP Special Products Inc
Activator 90

Algaecide

Applied Biochemists Inc
(Copper-Ethanolamine Complex)
Cutrine-Plus, Cutrine-Plus Granular,
Swimtrine-Plus
Ciba Geigy Corp
(Simazine) Aquazine
Great Lakes Biochemical Co
(Chelated Copper) Algimycin PhL-C;
(tableted Chelated Copper) Slow Release Algimycin PhL-C
LESCO Inc
(Elemental copper) Lescocide-Plus

Antitranspirant

Aquatrols Corp of America Inc
(Wax emulsion) Folicote
W A Cleary Chemical Co
Clearspray
Jonathan Green Inc
(Wax emulsion concentrate) Folicote
Green Pro Services
(Antidesiccant) Vita Coat
International Reforestation Suppliers
Wilt Pruf, Folicote
Nature's Touch
(Antidesiccant) Leaf Cote Clear
PBI-Gordon Corp
(Polyethylenes/Polyterpines) Transfilm
Precision Laboratories Inc
Preserve
Wilt-Pruf Products Inc
Wilt-Pruf

Bactericide

J J Mauget Co
(Streptomycin) Inject-A-Mycin "S"

Colorant

Arborchem Products Co
(Proprietary) Bullseye
W A Cleary Chemical Co
Greenzit, Super Greenzit, Super Greenzit C
Jonathan Green Inc
(blue dye) Dyon; (green pigment) Greenzit
LESCO Inc
(Blue indicator dye) LESCO Tracker
Mallinckrodt Inc
Turf Colorant, Auragreen, Vitalon
Milliken Chemical
(Polymeric) Blazon
Precision Laboratories Inc
Signal

Defoamer

Applied Biochemists Inc
(Silicone emulsion) Foamtrine
Arborchem Products Co
(Dimethylsiloxane) Arborchem
W A Cleary Chemical Co
(Dimethylsiloxane) Cleary's
Finn Corp
Foam Chek
Great Lakes Biochemical Co
(Silicone emulsion) Foam Out
Jonathan Green Inc
(Dimethylsiloxane suspension) Cleary's
LESCO Inc
(Silicone) LESCO Defoamer
Moyer Chemical Co
Anti-Foam, Foam Fighter
Precision Laboratories Inc
Knockdown, Control
Rigo Co
(Silicone) Red-Top No-Foam

Drift Retardant

Arborchem Products Co
(Acrylic Polymer) Arborchem 38-F
Jonathan Green Inc
(Polymer) Exhalt 800
Nalco Chemical Co
Nalco-Trol, Nalco-Trol II, Nalquatic
Nature's Touch
(Polyvinyl polymer) Sta-Put
Nepera Inc
(Polyacrylates) Viterra 800
Southern Mill Creek Products Co
(Polyvinyl polymer) Nalco-Trol;
(Polyacrylamide copolymer) Nalco-Trol II

Fertilizer, Tree

Creative Sales Inc
(Iron) Medicap FE; (Manganese) Medicap MN; (Zinc) Medicap ZN; (N-P-K, Fe, Mn & Zn) Medicap MD
Doggett Corp
(NPK slow release) XL-Injecto Feed, Evergreen Special, Root Pusher
Estech Branded Fertilizers
(Isobutylidene Diurea) Woodace
Jonathan Green Inc
16-32-16
Green Pro Services
(NPK, Humus, Micronutrients) Vita Tree & Shrub

Attending only one professional landscape show this year?

Make it Pro Show.

With so many trade shows to attend these days, it's tough to decide which is the best. This year, the decision is easy.

Pro Show. The One Show.

At Pro Show, you'll see products on an exhibit floor three times larger than any other commercial show. You can test products on a one-million-square-foot outdoor demo area. And talk directly to national sales managers and product designers from the top commercial manufacturers and suppliers.

Discover the latest landscaping techniques and business management skills from industry leaders in more than thirty seminars.

And save 75% on regular coach fares with Delta Airlines and American Express Travel Service. It's easy . . . call 1-800-626-2248 and ask to make a Pro Show reservation.

When you get right down to it, the decision is easy. Choose the one show that brings you more. Pro Show.

**November 18-20, 1987
Dallas Convention Center
Dallas, Texas**



Pro Show 87

The Professional Landscape Contracting, Turf and Grounds Maintenance Expo

YES!

**I want to know more
about Pro Show 87.**

- ☐ Exhibitor prospectus
☐ Attendee information
(or call 1-800-654-0349)

Return to:

Pro Show 87
101 N. Seventh Street
Louisville, KY 40202
1-800-654-0349 or
502/582-1672

Name _____

Title _____

Employer _____

Address _____

City/State/Zip _____

Telephone _____

Sponsored by the Outdoor Power Equipment Institute, Inc.

Circle No. 130 on Reader Inquiry Card

Chemicals

continued

Hawkeye Chemical Co
Formolene
LaRoche Industries Inc
(NPK) Vertagreen
Lebanon Chemical Corp
Lebanon, Turfmaster
Leffingwell
Vitaton Stabilized, Vitaton Sorba-Spray, Nutra-Phos, Nutra-Spray
LESCO Inc
LESCO 16-10-9 Tree Stakes, LESCO 8-10-10 "Hi" Trace Element Tree Stakes, LESCO Arbor Green
J J Mauget Co
(Chelated Ag Minerals & NPK) Stemix; (Sulfates & Nitrates) Inject-A-Min Fe-Zn, Inject-A-Min Mn
MCI AgSystems
(Triamino-triazine) Nitrazine 66N
Moyer & Son Inc
(Nitrogen, Phosphorus, Potash, Micronutrients) Rootflo, Arborflo
Moyer Chemical Co
Superblend 20-9-9, Container Spec 21-7-7
Nature's Touch
(Primary, secondary micronutrients) TES
NOR-AM Chemical Co
(Ureaform) NitroForm
Plant Marvel Laboratories Inc
(tree & shrub special 25-15-10) Plant Marvel Nutriculture Formula

Ringer Corp
(Organics & microorganisms) Tree Booster
Sierra Chemical Co
Agriform

Fertilizer, Turf

J & L Adikes Inc
(Urea-Form, Sulfur Coated Urea) Gro-Well
Andersons Lawn Fertilizer Div
(Team, Balan, Dacthal) Tee Time, Custom Mix
Arcadian Corp
(Triazone Nitrogen) N-Sure
W A Cleary Chemical Co
(Ureaform type) Fluf 18-0-0, Fluf 16-2-4, Fluf 10-0-10
Doggett Corp
(NPK quick release) Turf Special 28-7-14; (NPK slow release) Slow Release Turf Special 34-4-7
Estech Branded Fertilizers
(Isobutylidene Diurea) Par Ex
Garfield Williamson Inc
(SCU, UF, natural organic) Proform
Jonathan Green Inc
25-5-5, 25-5-15, 19-4-4, 29-3-5, 27-3-7, 20-4-4, 32-5-7, 10-25-25, 38-0-0
Green Pro Services
(NPK) Vita Grow; (Secondary & Micronutrients) Vita Green

Growth Products
18-2-8
Hawkeye Chemical Co
Formolene
LaRoche Industries Inc
(Diazinon, Dursban, Team, Balan, Ronstar, Trimene, NPK) Vertagreen
Lebanon Chemical Corp
Lebanon, Country Club, Greenskeeper, Lebanon Pro, Lebanon Custom, Green Gold, Turfmaster
Leffingwell
Vitaton Stabilized, Vitaton Sorba-Spray
LESCO Inc
(Multiple types and blends) LESCO
MCI AgSystems
(Triamino-triazine) Nitrazine 66N
Milwaukee Metropolitan Sewerage District
(6-2-0 Natural Organic) Milorganite
Moyer & Son Inc
(Nitrogen, Phosphorus, Potash, Micronutrients) Turflo; Profit Blend
Moyer Chemical Co
Lawn & Golf 16-6-8, Superblend 20-9-9
Nature's Touch
(Primary, secondary micronutrients) Strengthen & Renew, Green Magic; (Organic micronutrients, plant/microbial by-products, enzymes) Vita Feed, Relief
NOR-AM Chemical Co
(Ureaform) Nitroform
PBI-Gordon Corp
(Liquid-Iron & Sulphur, Urea) Ferrimec (Pecessed cow slurry) Bov-a-Mura
Plant Marvel Laboratories Inc
(Bent special 28-8-18, Bermuda special 25-5-20) Plant Marvel Nutriculture Formula
Rhone Poulenc-Chipco Group
(Micronutrients) Microgreen
Ringer Corp
(Organics & microorganisms) Turf Restore
O M Scott & Sons Co
(Methylene Urea Nitrogen, SREF Nitrogen, SREF Blend) ProTurf
Sierra Chemical Co
Agriform, Osmocote
Southern Mill Creek Products Co
(20-20-20 w/minors)
UAP Special Products Inc
UAP Turf
Warren's Turf Nursery Inc
(SCU, IBDU, Dicamba, MCPP) Warren's Turf Professionals

WINTER WONDER.



We Support
THE PLANTING COUNCIL

With Wilt-Pruf

Circle No. 169

on Reader

Inquiry Card

Without Wilt-Pruf

During cold weather, excessive moisture loss makes plants easy targets for serious damage — even death.

Wilt-Pruf® can help cut winter-kill by providing a protective coating that holds in life-preserving moisture. Fewer losses mean fewer replacements. And that means more satisfied customers.

Wilt-Pruf also protects

against drought, windburn, air pollution, salt spray damage and transplant shock. Plus it's biodegradable and organic.

It's the perfect remedy for the winter. Or any season. *Guards against moisture loss year 'round.*



WILT-PRUF®
ANTI-TRANSPIRANT

P.O. Box 4280, Greenwich, CT 06830-0280. 203/531-4740

Fungicide, Tree

Ciba Geigy Corp
(Metalaxyl) Subdue
Fermenta Plant Protection Co
(Chlorothalonil) Daconil 2787
Kincaid Enterprises Inc
(Chloroneb) KE Terraneb SP
LESCO Inc
(Mancozeb) LESCO 4 80WP; (Maneb, Zinc) LESCO 4 Flowable with Zinc
Mallinckrodt Inc
(Zn, Mn, Thiophanate Methyl) Zyban
J J Mauget Co
(DEBC) Fungisol; (Oxycarboxin) Fungisol PV

Nourish Your Turf With **NITROFORM**

Nourishing your turf with NITROFORM[®] assures better root development and healthier turf by providing six important benefits.

- 1** Consistent 38% nitrogen.
- 2** Sustained, predictable release by soil bacteria to provide nitrogen when needed most by roots and vegetative parts.
- 3** Provides organic nitrogen and carbon to enhance bacterial activity, even in sandy soils.
- 4** Non-burning to turf, trees, or ornamentals when used as directed.
- 5** Environmentally sound... resists leaching, even in porous soils.
- 6** Fewer applications a year are required.

For a complete information kit on nourishing and protecting your turf, join the NOR-AM Turf Management Program. Write to the Communications Department, NOR-AM Chemical Company, 3509 Silverside Road, P.O. Box 7495, Wilmington, DE 19803.

NITROFORM[®] is available as BLUE CHIP[®] or GRAY CHIP[™] for dry application, or as POWDER BLUE[®] or POWDER GRAY[™] for liquid application.



NOR-AM
NOR-AM CHEMICAL COMPANY

3509 Silverside Road, P.O. Box 7495
Wilmington, DE 19803



IMPORTANT: Please remember always to read and follow carefully all label directions when applying any chemical.

Chemicals

continued

Mobay Corp
Bayleton 25 Turf & Ornamental
Fungicide
Rhône Poulenc-Chipco Group
(Iprodione) Chipco 26019

Fungicide, Turf

J & L Adikes Inc
(Dyrene, Benomyl) Gro-Well
Ciba Geigy Corp
(Metalaxyl) Subdue
W A Cleary Chemical Co
(Cadmium Chloride) Caddy; (PMAS)
PMAS 10%; (Thiram) Spotrete 75WDG;
(Thiophanate ethyl) 3336-WP, 3336-F
E I DuPont de Nemours & Co
(Benomyl) Tersan 1991 DF; (Mancozeb)
Tersan LSR
Elanco Products Co
(Fenarimol) Rubigan
Fermenta Plant Protection Co
(Chlorothalonil) Daconil 2787
Gustafson Inc
(Fungicide) Apron
Jonathan Green Inc
Banol, Bayleton, Chipco 26019, Daconil
2787, Dyrene, Rubigan, Spotrete-F,
Tersan 1991 & LSR
Hendrix & Dail Inc
(Formaldehyde) HD-Form-A-Turf
Lebanon Chemical Corp
(Bayleton) Lebanon; (Chlorothalonil)
Green Gold, Country Club
LESCO Inc
(Mancozeb) Lesco 4 80WP; (PCNB)
LESCO PCNB 10%; (Thiram, cadmium
chloride) LESCO Snow Mold; (Thiram)
LESCO Thiram 75WP
Mallinckrodt Inc
(Mercuric Chloride, Mercurous Chloride)
Calo-Clor, Calo-Gran; (Cadmium
Succinate) Cadminate; (ZN, Mn EBCD,
Thiophanate Methyl) Duosan;
(Thiophanate Methyl) Fungo 50;
(Cadmium Sebecate, Potassium,
Chromate, Thiram) Kromad; (Ethazol)
Koban 30, Koban 1.3G; (Thiram)
Thiramad
Mobay Corp
Bayleton 25 Turf & Ornamental
Fungicide; Dyrene 4 Turf Fungicide
NOR-AM Chemical Co
(Propamocarb) Banol
PBI Gordon Corp
(Chloroneb) Teremec SP (Fore) Formec
80
Rhône Poulenc-Chipco Group
(Iprodione) Chipco 26019; (Aluminum
Tris) Chipco Aliette
Rigo Co
(Captan) Wilbur-Ellis Captan 50 WP;
(Thiram + repellent) Wilbur-Ellis Scram
42-S
Ringer Corp
(Bacterial type) Turf Restore
Safer Inc
Safer
O M Scott & Sons Co
(Triadimefon; PMA & Thiram; PCNB;
Thiophanate-methyl & Iprodione;
Chloroneb; Thiophanate-methyl;
Iprodione; Metalaxyl; Thiophanate-

methyl & Iprodione; Triadimefon &
Metalaxyl) ProTurf
Southern Mill Creek Products Co
(Captan, Terrachlor, Thiram) TTC;
(Thiram) Thiram 75
UAP Special Products Inc
(PCNB) UAP PCNB

Growth Regulator

Arborchem Products Co
(Paclobutrazol) Clipper; (NAA, ethyl
ester) Sprout Gard; (Metsulfuron
Methyl) Escort; (Chlorsulfuron) Telar
Chevron Chemical Co
(Uniconazole) Ortho Prunit
Elanco Products Co
(Flurprimidol) Cutless
Fermone Chemicals Inc
(Cytokinins) Burst Yield Booster
Jonathan Green Inc
Limit
Leffingwell
(Chlorflurenol) Maintain CF-125,
Maintain A
LESCO Inc
Alar 85, A-Rest, Embark, Florel,
Hormodin 1, 2, & 3, LIMIT
Monsanto Co
(Amidochlor) Limit; (Glycine, Sodium
Sesquiasalt of N-phosphonomethyl)
Manage
PBI-Gordon Corp
(Atrinal) Attrimec; (Mefluidide) Embark
O M Scott & Sons Co
(Paclobutrazol) ProTurf

Herbicides, Aquatic

Applied Biochemists Inc
(Diquat Dibromide) Weedtrine-D; (2,4-D
Ester granular) Weedtrine II
Chevron Chemical Co
(Diquat Dibromide) Diquat Herbicide-
H/A
Elanco Products Co
(Fluridone) Sonar
Jonathan Green Inc
(Diquat) Diquat; (dye) Aqua-Shade
Monsanto Co
(Glyphosate, Isopropylamine Salt Of)
Rodeo
Riverdale Chemical Co
(2,4-D) 2,4-D Granules, Weeddestroy
AM-40
Southern Mill Creek Products Co
(2,4-D Amine)

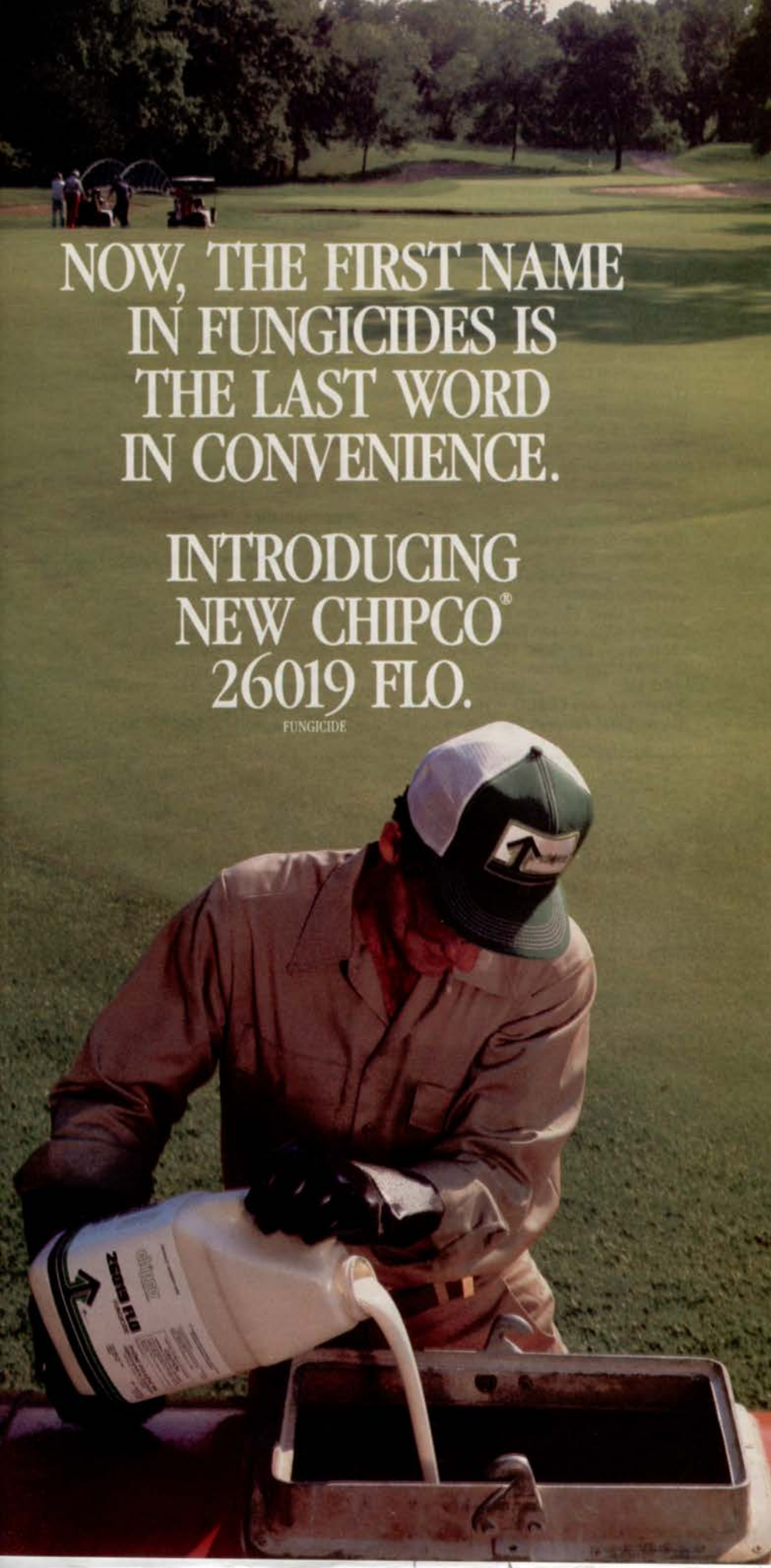
Herbicides, Nonselective

J & L Adikes Inc
(Pramitol & 2,4-D) Gro-Well
American Cyanamid Agricultural Div
Arsenal
Arborchem Products Co
(Glyphosate) Roundup; (Bromacil)
Clearway; (Bromacil/Diuron) Arborchem
Four Plus Four; (Diuron) Arborchem
Four Percent Diuron
Chevron Chemical Co
(Diquat Dibromide) Diquat Herbicide-
H/A
Elanco Products Co
(Tebuthiuron) Spike

Jonathan Green Inc
(Glyphosate) Round-up; (Tebuthiuron)
Spike 5%G
LESCO Inc
(Sodium metaborate tetrahydrate,
sodium chlorate, bromacil) Lescobar
Monsanto Co
(Glyphosate, Isopropylamine Salt of)
Roundup
PBI-Gordon Corp
(Dichlobenil) Nordsac 10-G, Barrier 50-
W; (Prometon 2,4-D, Vegemec
Riverdale Chemical Co
(Sodium Chlorate) Killall; (Bromacil &
Diuron) Granular Vegetation Killer

Herbicides, Postemergence

J & L Adikes Inc
(Trimec, AMA, DSMA, 2,4-D) Gro-Well
Andersons Lawn Fertilizer Div
(Chlorflurenol) Break-Thru
Arborchem Products Co
(Triclopyr) Garlon 4, Garlon 3A;
(Picloram) Tordon 101; Arsenal
BASF Corp Chemicals Div
Poast
W A Cleary Chemical Co
(Mecoprop) Cleary's MCPP;
(Mecoprop/2,4-D) Cleary's MCPP/2,4-
D; (2,4-D/dichloroprop) Weedone DPC;
(DSMA) Methar 30
Dow Chemical USA
(Triclopyr ester + 2,4-D) Turflon D;
(Triclopyr ester) Turflon Ester; (Triclopyr
amine) Turflon Amine; (Triclopyr Amine
+ 2,4-D) Turflon II
Fermenta Plant Protection Co
(Dimethylene salt of 2,4-D & MCPP)
2+2; (Monosodium Methanearsonate)
Daconale 6; (Disodium
Methanearsonate) DSMA; (N-oley-1,3-
propylene diamine salt of 2,4-D)
Dacamine 4D
Jonathan Green Inc
(Disodium methylarsonate) Weed-E-Rad
360 DSMA; (Bentazon) Basagran,
Acclaim
Hoechst-Roussel Agri-Vet Co
Acclaim 1EC
LaRoche Industries Inc
(Trimene, Dichlorophenoxyacetic acid,
2-methyl-4-Chlorophenoxy propanoic
acids) Vertagreen
Lebanon Chemical Corp
(2,4-D & MCPP) Lebanon, Country Club,
Green Gold, Turfmaster
LESCO Inc
(2,4-D & 2,4-DP) LESCO, LESCO
Weedone DPC; (2,4-D, MCPP &
dicamba) LESCO Three-Way; (2,4-D)
LESCO A-4D; (MCPP) Lescopex;
(MCPP, 2,4-D) Lescobar; (2,4-D &
dicamba) LESCO Dicamba plus 2,4-D
Amine, LESCO Eight-One; (MSMA)
LESCO MSMA 6.6; (Bromoxynil) LESCO
Brominal
Mallinckrodt Inc
(Dicamba, 2,4-D, MCRP) Trexan
Mobay Corp
Sencor Turf Herbicide
Monsanto Co
(Glyphosate, Isopropylamine Salt Of)
Roundup; (Dicamba, Dimethylamine Salt
Of) Trooper



NOW, THE FIRST NAME
IN FUNGICIDES IS
THE LAST WORD
IN CONVENIENCE.

INTRODUCING
NEW CHIPCO®
26019 FLO.

FUNGICIDE

The easy way to stop major
turf diseases for up to
four full weeks.

Thousands of golf course superintendents have discovered one important fact. You just can't beat Chipco 26019 fungicide for controlling turf diseases.

And now you can get all the advantages of Chipco 26019 wettable powder in a convenient flowable formulation. New Chipco 26019 FLO.

Like the wettable powder, new Chipco 26019 FLO offers unsurpassed protection against major turf diseases, including Helminthosporium Leaf Spot and Melting Out, Dollar Spot, Brown Patch, Fusarium Blight, Red Thread, Fusarium Patch, plus Gray and Pink Snow Molds.

Chipco 26019 FLO also delivers the same long-lasting residual control. In fact, both Chipco 26019 formulations protect your turf for up to 28 days.

With Chipco 26019, you also get the added benefits of convenience, no phytotoxicity, pesticide compatibility, low toxicity and no corrosiveness.

Wettable Powder or new FLO, it's easy to see why Chipco 26019 is the Number 1 name in turf disease control.

Rhone-Poulenc Inc., CHIPCO
Department, P.O. Box 125,
Monmouth Junction, NJ 08852.



CHIPCO®
26019

FUNGICIDE

Please read label carefully and use only as directed. CHIPCO® is a registered trademark of Rhone-Poulenc Inc.

Circle No. 151 on Reader Inquiry Card

Chemicals

continued

Nature's Touch
(2,4-D + MCP) D-Weeder 4X
NOR-AM Chemical Co
(Ethofumesate) Prograss
PBI-Gordon Corp
(Esters of 2,4-D & 2,4-DP + Dicamba)
Super Trimec; (2,4-D, MCP +
Dicamba) Trimec; (Dichlobenil) Dyclome
4-G, Norsac 4-G
Rhone Poulenc-Chipco Group
(2,4-D, MCP) Chipco Turf Kleen;
(Bromoxynil) Chipco Bucril; (Asulam)
Asulox
Riverdale Chemical Co
(2,4-D, Mecoprop & Dichlorprop)
Weedestroy Triamine; (MCPA,
Mecoprop & Dichlorprop) Triamin II;
(2,4-D) Weedestroy AM-40
O M Scott & Sons Co
(2,4-D, MCP & Dicamba; Atrazine;
Dicamba) ProTurf
Southern Mill Creek Products Co
(2,4-D Amine)
UAP Special Products Inc
(2,4-D, dicamba, MCP) Mec-Amine -
D, (2,4-D, dicamba) Four Power Plus

Herbicides, Preemergence

J & L Adikes Inc
(Tupersan, Balan, Team, Dacthal) Gro-
Well
Arborchem Products Co
(Sulfometuron) Oust; (Diuron &

Bromacil) Krovar I; (Oryzlan) Surflan AS;
(Pendimethlin) Stomp
Ciba Geigy Corp
(Metalachlor) Pennant
Elanco Products Co
(Oryzalin) Surflax; (Isoxaben) Encore;
(Benefin) Balan; (Trifluralin) Treflan;
(Oryzalin, Benefin) XL; (Benefin,
Trifluralin) Team
Fermenta Plant Protection Co
(DCPA) Dacthal, Dacthal W-75
Jonathan Green Inc
(Benefin) Balan; (Bensulide) Betasan;
(Oxadiazon) Ronstar;
(Tetrachloroterpthalate) Dacthal;
(Dichlobenil) Dyclomec; (Oryzalin)
Surflan; (Benefin, Trifluralin) Team;
(Trifluralin) Treflan
LaRoche Industries Inc
(Team, Balan, Surflan, Ronstar)
Vertagreen
Lebanon Chemical Corp
(Benefin) Greenskeeper, Country Club,
Turfmaster, Green Gold; (Bensulide)
Lebanon, Country Club; (DCPA)
Lebanon, Country Club; (Oxadiazon)
Country Club; (Benefin & Trifluralin)
Country Club, Green Gold; (Trifluralin)
Lebanon, Green Gold; (Siduron)
Greenskeeper, Green Gold
LESCO Inc
(Pendimethalin) LESCO PRE-M 60DG;
(Bensulide) Lescosan 4E, Lescosan 7G;

(DCPA) LESCO Dacthal 5G; (Benefin)
LESCO 2.5 Benefin; (Napropamide)
LESCO Devrinol 5G
Mallinckrodt Inc
(Bensulide) Presan
NOR-AM Chemical Co
(Ethofumesate) Prograss
PBI-Gordon Corp
(Dichlobenil) Norosac 4-G, Dyclomec 4-
G; (Bensulide) Bensumec 4LD
Rhone Poulenc-Chipco Group
(Oxadiazon) Chipco Ronstar
O M Scott & Sons Co
(Pendimethalin; Siduron; Bensulide;
Bensulide & Oxadiazon) ProTurf
UAP Special Products Inc
(Bensulide) Betasan 4E; (DCPA) Dacthal
WDG; (Pendimethalin 60 WDG)
Weedgrass Control

Insecticides, Tree

J & L Adikes Inc
(Sevin, Malathion, Methoxychlor) Gro-
Well
Chevron Chemical Co
(Acephate) Orthene 75S
Ciba Geigy Corp
(Diazinon) DZN
Creative Sales Inc
(Acephate) Acecap 97
Kincaid Enterprises Inc
(Methoxychlor) KE Marlate 50

The Advanced System for

Billy Goat's TR Truck Loader System is a complete lawn maintenance system that makes fall leaf cleanup easy. Call us today and find out how your lawn service crew can use these four pieces of equipment to clean up in record time.



P.O. Box 308
Lee's Summit, MO
64063-0308
(816) 524-9666
Telex 91099770014



Use the backpack blower to remove debris from shrubs and hard-to-reach areas.



The suction sweeper is used for sweeping up leaves in outlying areas, away from the truck.

Chemicals

continued

LaRoche Industries Inc
(Malathion) Vertagreen
LESCO Inc
(Diazinon) LESCO Diazinon 500;
(Chlorpyrifos) LESCO Dursban 2.32G
Mallinckrodt Inc
Bendiocarb, Dycarb, (Diazinon &
Methoxychlor) Dymet; (Bendiocarb)
Dymet
J J Maugel Co
(Oxydemeton-methyl) Inject-A-Cide;
(Dicrotophos) Inject-A-Cide B
Mobay Corp
Metasystox-R 2 Ornamental Insecticide
Baygon 70 Wettable Powder Insecticide
NOR-AM Chemical Co
(Bendiocarb) Turcam
PBI-Gordon Corp
(Fenitrothion) Pestroy
Prentiss Drug & Chemical Co
(Malathion, Methoxychlor, Diazinon,
Lindane, Chlorpyrifos) Prentox
Southern Mill Creek Products Co
(Malathion, Sevin)
Zoecon Corp-Sandoz Crop Protection
Corp
(Fluvalinate) Mavrik Aquaflow

Insecticides, Turf

J & L Adikes Inc
(Dursban, Oftanol, Sevin, Diazinon) Gro-
Well

American Cyanamid Agricultural Div
(Dimethoate) Cygon
Andersons Lawn Fertilizer Div
(Dursban, Diazinon, Oftanol) Tee Time,
Custom Mix
Chevron Chemical Co
(Acephate) Orthene 75S
Ciba Geigy Corp
(Diazinon) DZN
W A Cleary Chemical Co
(Carbaryl) Sevin SL; (Chlorpyrifos)
Dursban 2.32G; (Diazinon) Diazinon AG-
500
Cumberland Intl Corp
(Carbaryl) Crunch
Dow Chemical USA
(Chlorpyrifos) Dursban
Jonathan Green Inc
(Diazinon) Diazinon 5% & 14% & AG-
500; (Chlorpyrifos) Dursban 4E &
2.32%G, Oftanol 1.5% & 5%G;
(Ethoprop) Mocap 10%G; (Dylox) Prolox
80 SP; (Carbaryl) Sevin
Kincaid Enterprises Inc
(Methoxychlor) KE Marlate 50
LaRoche Industries Inc
(Trichlorfon 6.2, Diazinon 5%, Dursban
2.32, 1-Naphthyl, N-methylcarbamate)
Vertagreen
Lebanon Chemical Corp
(Chlorpyrifos) Country Club,
Greenskeeper, Green Gold, Turfmaster;
(Isofenfos) Lebanon, Country Club;

(Dimethyl Phosphonate) Lebanon
LESCO Inc
(Trichlorfon) LESCO Dylox 5G;
(Diazinon) LESCO Diazinon 500, 5G &
14G; (Chlorpyrifos) LESCO Dursban
2.32G; (Isofenfos) LESCO Oftanol
1.5G; (Carbaryl) LESCO Sevin Brand SL
Maag Agrochemicals Inc
(Fenoxycarb) Logic
Mallinckrodt Inc
Diazinon & Methoxychlor, Dymet
Mobay Corp
Oftanol 5% Granular, Oftanol 2, Dylox
80
NOR-AM Chemical Co
(Bendiocarb) Turcam; (Trichlorfon)
Prolox; (Dioxathion) Deltic
PBI-Gordon Corp
(Carbaryl) Carbanec; (Fenoxycarb on
vegetable oil-coated expanded corn
grit) Logic Fire Ant Bait
Prentiss Drug & Chemical Co
(Diazinon, Chlorpyrifos) Prentox
Rhône Poulenc-Chipco Group
(Ethoprop) Chipco Mocap
Rigo Co
(Diazinon) Red Top Diazinon 4;
(Malathion) Red Top Malathion 25 SP;
(Mesurol) Wilbur-Ellis Snail & Slug B
O M Scott & Sons Co
(Chlorpyrifos; Diazinon; Isofenfos)
ProTurf

Lawn Maintenance

The TR Truck Loader System



Use the heavy duty wheeled blower to move large quantities of leaves toward the truck.

The intake hose vacuums leaves piled up around the truck and sends them through the four-bladed steel impeller in the truck loader. By crushing leaves and debris into small particles, the impeller greatly reduces bulk. This allows the truck to hold more debris and prevents operators from having to unload the truck as often.



Circle No. 105 on Reader Inquiry Card

Chemicals

continued

Southern Mill Creek Products Co
(Dursban) Dursban 2E, 4E, Cricket Bait
& Granular; (Diazinon) Diazinon AG500;
(Baygon) Maxtox 151; (Metaldehyde)
Slug & Snail Bait; (Sevin) Sevin 5%
Granule; (Malathion) Malathion Mole
Cricket Bait

UAP Special Products Inc
(Bendiocarb) Turcam 2.5G
Zoecon Corp-Sandoz Crop Protection
Corp
(Fluvalinate) Mavrik Aquaflow

Miticides

Fermone Chemicals Inc
(Mite pheromone) Stirrup
Mobay Corp
Morestan 25%
Zoecon Corp-Sandoz Crop Protection
Corp
(Dienochlor) Pentac Aquaflow

Mulches & Erosion Control

Cellin Mfg Inc
(Processed fiber) Cellin, Cellin Plus,
Cellin K, K Plus; (Acrylic emulsion) Cellin
Seal Tackifier
Finn Corp
Fiber Plus; Hydro Stik
Grass Growers Inc
Terra Tack I, III, AR, MP
Jacklin Seed Co
Jacklin Organic Mulch
Jonathan Green Inc
Sunlock, Cellins, Curlex, Hydrogreen
Hoechst Celanese Corp
(100% Polyester fibers) Earth Blanket
Nepera Inc
(Potassium Propenoate-Propenamide
Copolymer) Viterra Gelscape
Soil Seal Corp
(Copolymer based) Soil Seal
Warren's Turf Nursery Inc
Warren's Terrabond Polyester
Geotextile Fabrics

Nematocides

Mobay Corp
Nemacur 3 & 10%
Rhone Poulenc-Chipco Group
(Ethoprop) Chipco Mocap

Penetrant, Metal

LESCO Inc
(petroleum based) Lesco 4-Way
Lubricant
Precision Laboratories Inc
(Penetrating oil) Penetral; (Penetrating
grease) Lube-2

Repellents, Animal

Burlington Bio-Medical & Scientific Corp
Ropel
W A Cleary Chemical Co
(Thiram) Spotrete F, Spotrete WDG
Jonathan Green Inc
(Thiram) Spotrete-F

International Reforestation Suppliers
(Putrescent whole egg solids) Deer
Away BGR
Leffingwell
Hinder

Soil Amendments

Aquatrols Corp of America Inc
(Acrylamide Acrylate copolymer)
Supersorb
W A Cleary Chemical Co
(Calcium sulfate) Flowable Gypsum
Doggett Corp
(Elemental sulfur) Nutri-Sul 90
Finn Corp
Hydro Gel
Grass Growers Inc
Terra Tack I, III, AR, MP
Jonathan Green Inc
(Dolomitic Limestone)
Green Pro Services
(Humus, minerals) Vita Build
International Reforestation Suppliers
TerraSorb, Aquatrol
LESCO Inc
(ferment & polymers) Lescozyme
Nature's Touch
(Plant/microbial by-products, enzymes,
wetting agents) Nutra-Aid;
(plant/microbial by-products, enzymes,
wetting agents; organic micronutrients)
Relief
Nepera Inc
(Potassium Propenoate-Propenamide
Copolymers) Viterra Gelscape
PBI-Gordon Corp
(Processed cow slurry) Bov-A-Mura

Soil Conditioner

American Pelletizing
(Pelletized lime & gypsum) Reveille
W A Cleary Chemical Co
(Calcium carbonate, dolomitic sulfur)
Limestone-F, Sulfur-F
LESCO Inc
(ferment & polymers) Lescozyme
Nalco Chemical Co
Nalco 2190
Nature's Touch
(Plant/microbial by-products, enzymes)
Nutra-Aid
Nepera Inc
(Potassium Propenoate-Propenamide
Copolymer) Viterra Gelscape
Precision Laboratories Inc
(Calcium) Liqui-Cal

Soil Fumigants

Hendrix & Dail Inc
(Methyl Bromide/Chloropicrin) MBC,
MBC-33; (Methyl
Bromide/Chloropicrin/Solvent) MBC;
(Chloropicrin) HD-Pic
LaRoche Industries Inc
Vertagreen
Rigo Co
(Vapam) Wilbur-Ellis Soil-Prep

Sticker/Extender

Arborchem Products Co
(Proprietary) Clean Cut

Chevron Chemical Co
(Alkyl olefin aromatic polymers) Chevron
Spray Sticker
W A Cleary Chemical Co
Super Wet, Clearspray
Jonathan Green Inc
(Polymer) Exhalt 800
LESCO Inc
LESCO Spreader Sticker
Precision Laboratories Inc
(Non-ionic spreader/sticker) Chem-Stik
Rigo Co
(Polyoxypropylene propanol) Wilbur-Ellis
R-56; (Octyl Phenoxy Polyethoxy
Ethanol) Wilbur-Ellis R-11; (Alky Aryl
Polyoxyethylene Ether) Red Top Super
Spread 200
Southern Mill Creek Products Co
(Isocetyl phenyl polyethoxy ethanol)
SMCP
UAP Special Products Inc
Bond
Wilt-Pruf Products Inc
Spray-Stay

Tree Dressings

J & L Adikes Inc
Gro-Well
Arborchem Products Co
(NAA, ethyl ester) Sprout Gard
LESCO Inc
LESCO Pruning Paint

Wetting Agents

Aquatrols Corp of America
(Blend of non-ionic surfactants) Aqua-
Gro
Arborchem Products Co
(Proprietary) Arborchem
Chevron Chemical Co
(Alkylaryl/polyoxyethylene, glycols, free
fatty acids & isopropanol) Ortho X-77
W A Cleary Chemical Co
Super Wet, Super Wet 15G
Elanco Products Co
Improve
Jonathan Green Inc
Aqua-Gro
Green Pro Services
Vita Flow
Leffingwell
(Non-ionic surfactants) Activate
LESCO Inc
LESCO-WET
Mallinckrodt Inc
Aquadro
Nature's Touch
(Plant/microbial by-products, enzymes)
Nutra-Aid
PBI-Gordon Corp
(Oxyethylene) Aqua-Zorb
Precision Laboratories Inc
Pen-A-Trate
Southern Mill Creek Products Co
(Isocetyl phenyl polyethoxy ethanol)
SMCP

LANDSCAPE MANAGEMENT: the only mag-
azine in the green industry for the land-
scape manager.

"...As a young entrepreneur I definitely feel that I've made the right decision."



"The support ServiceMaster gives you is incredible. If you don't have marketing and management skills, ServiceMaster is the way to go.

Any novice can come in. ServiceMaster advises you every step of the way: bringing on a new employee, buying a new van, marketing...

I have several friends in business for themselves and they're quizzing me for advice. One friend, a landscape architect, is trying out his third bookkeeping system. And they all wish they had the same kind of support system we have in ServiceMaster.

The regional distributor has been a great help to me. Also, Rick White visits all the LawnCare licensees once or twice a year. If you need advice he's always available by phone, as well.

It's reassuring to have somebody to turn to. He hasn't led me wrong yet.

I find it a real advantage to be part of ServiceMaster. People recognize the name. In my door-knocking I've come across ServiceMaster cleaning customers and haven't had a negative response yet.

The materials are really effective. I was sold on liquid when I used to work with another lawn care company. I now see the use of both granular and liquid as a real benefit.

All my customers from last year stayed with me except one. The husband wants to try it himself. His wife says he'll be back next year.

I'm amazed at what's come out of all this. As a young entrepreneur I definitely feel I've made the right decision."

Ted Duncan
ServiceMaster LawnCare Operator
Littleton, Colorado

"Making the right decision can be a tough process, especially when you're thinking about going into business for yourself. You can really back yourself into a corner wondering if you'll be able to handle all the mysteries of being your own boss.

Setting up shop, bookkeeping, getting customers, keeping customers...it can seem pretty complicated. And it all boils down to one question: WILL I MAKE IT?

I know. I've been through it all. I had my own lawn maintenance company before I joined the ServiceMaster team. What attracted me was the beauty of franchising and the fact that ServiceMaster does it better than anybody else.

I personally oversee the technical training of every new licensee. When my students leave the Academy of Service, they can run their own business—and keep it running. They've got the whole ServiceMaster system working for them.

Are you interested in being your own boss? There's a lot of satisfaction to it. Thousands of others have gone before you to build successful ServiceMaster franchises. You can be one of them.

Ted Duncan went through the Academy of Service, our intensive training program, in March of '85. He's entering his second year as a ServiceMaster LawnCare operator, and I've asked him to talk about his experience.

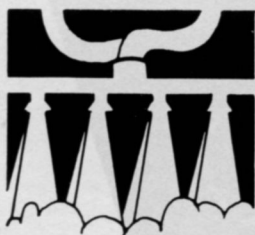
Think about it. If you're interested give us a call, or write. We have a real opportunity for people like you."

Rick White
Vice President
ServiceMaster LawnCare

For information and a franchise application, please call or write:

ServiceMASTER
LawnCare

ServiceMaster LawnCare
2300 Warrenville Road
Downers Grove, IL 60515
(312) 964-1300



4. Chemical Companies

J & L Adikes Inc
182-12 93rd Ave
Jamaica NY 11423
718-739-4400
516-437-4477

Agro-Chem Inc
See Nature's Touch

American Cyanamid Agricultural Div
One Cyanamid Plaza
Wayne NJ 07470

American Pelletizing
13 Island Dr
Brick NJ 08724
201-899-2499

Andersons Lawn Fertilizer Div
1200 Dussel Dr
PO Box 119
Maumee OH 43537
419-893-5050

Applied Biochemists Inc
5300 W County Line Rd
Mequon WI 53092
414-242-5870
800-558-5106

Aquashade Inc
PO Box 198
Eldred NY 12732
914-557-8077

Aquatrols Corp of America Inc
1432 Union Ave
Pennsauken NJ 08110
609-665-1130

Arborchem Products Co
PO Box 1567
Fort Washington PA 19034
215-659-7922
800-874-0442

Arcadian Corp
PO Box 265
Parsippany NJ 07054
201-829-6500

★ BASF Corp Chemicals Div
100 Cherry Hill Rd
Parsippany NJ 07054

Burlington Bio-Medical & Scientific Corp
91 Carolyn Blvd
Farmingdale NY 11735-1527
516-694-9000

Cellin Mfg Inc
9610 Gunston Cove Rd
Lorton VA 22079
703-690-1195

Chevron Chemical Co
Agricultural Chemicals Div
575 Market St
San Francisco CA 94105
415-894-6219

Ciba Geigy Corp
Agricultural Div
410 Swing Rd
Greensboro NC 27419
919-292-7100

W A Cleary Chemical Co
1049 Somerset St
Somerset NJ 08873
201-247-8000

Creative Sales Inc
222 N Park Ave
PO Box 501
Fremont NE 68025
402-727-4800

Cumberland Intl Corp
1523 N Post Oak Rd
Houston TX 77055
713-682-1221

Doggett Corp
Cherry St
Lebanon NJ 08833
201-236-6335

★ Dow Chemical USA
9001 Bldg
Midland MI 48640
517-636-1000

E I DuPont de Nemours & Co
1007 Market St
Wilmington DE 19898
302-992-6161

★ Elanco Products Co
Dept EM 455
Lilly Corporate Center
Indianapolis IN 46285
317-261-6102 (IN)
800-352-6776

Estech Branded Fertilizers
PO Box 512
Winter Haven FL 33882-0512
813-294-2567

Fermenta Plant Protection Co
5966 Heisley Rd
PO Box 8000
Mentor OH 44061-8000
216-357-4100

Fermone Chemicals Inc
1523 N Post Oak Rd
Houston TX 77055
713-682-1221

Finn Corp
9281 Le Saint Dr
Fairfield OH 45014
513-874-2818

Garfield Williamson Inc
Proform Turf Products Div
9 Stewart Pl
Fairfield NJ 07006
201-882-7755
800-435-5296

Grass Growers Inc
424 Cottage Pl
Plainfield NJ 07060
201-755-0923

Great Lakes Biochemical Co
6120 W Douglas Ave
Milwaukee WI 53218
414-464-1200

Jonathan Green Inc
Squankum-Yellowbrook Rd
PO Box 326
Farmingdale NJ 07727
201-938-7007
800-526-2303

Green Pro Services
380 S Franklin St
Hempstead NY 11550
516-538-6444
800-645-6464

Growth Products
PO Box 1259
White Plains NY 10602
914-428-1316

Gustafson Inc
PO Box 660065
Dallas TX 75266
214-985-8877

Hawkeye Chemical Co
PO Box 899
Clinton IA 52732
319-243-5800

Hendrix & Dail Inc
PO Box 648
Greenville NC 27835-0648
919-758-4263

Hoechst Celanese Corp
PO Box 5887
Spartanburg SC 29304
800-845-7597

★ Hoechst-Roussel Agri-Vet Co
Rte 202-206 N
Bedminster 1
Somerville NJ 08876
201-231-2865

International Reforestation Suppliers
2100 W Broadway
Eugene OR 97405
800-321-1037

Jacklin Seed Co
W 5300 Jacklin Ave
Post Falls ID 83854
208-773-7581

Kincaid Enterprises Inc
Plant Rd
PO Box 549
Nitro WV 25143
304-755-3377

the CLEAN-UP MACHINE



- QUALITY
- RELIABILITY
- SERVICE



Picking up debris in Culvert



Self unloading with hydraulic door.



Picking up leaves in hedgerow

THE BROUWER-VAC . . . largest capacity Vac on today's market. The powerful suction head and blower provide the latest technique for vacuuming turf and hard surface areas.

It provides an economical method of picking up grass clippings, leaves, twigs, pine needles and thatch from verti-cutting on sod farms, golf courses, parks and recreation areas and also trash and litter from hard surfaces in airports, parking lots, stadiums and highway shoulders. It vacuums acre after acre without wasteful frequent unloading stops. Fast easy self-unloading is via hydraulically operated door and conveyor. The optional Vac extension hose is spring balanced for ease of handling and allows the operator access in hard to reach areas around trees, flower beds, fences and culverts.

The Brouwer-Vac, designed to provide an economical, fast, efficient and reliable way to "clean-up", it enhances the beauty and cleanliness of turf and hard surface areas.

FEATURES:

- Large load capacity
- Light weight construction
- Dual flotation tires
- Easy to operate finger tip controls
- Unloads in seconds with hydraulic driven conveyor
- 80 in. floating suction head (Opt. extension to 120 in.)
- P.T.O. Driven
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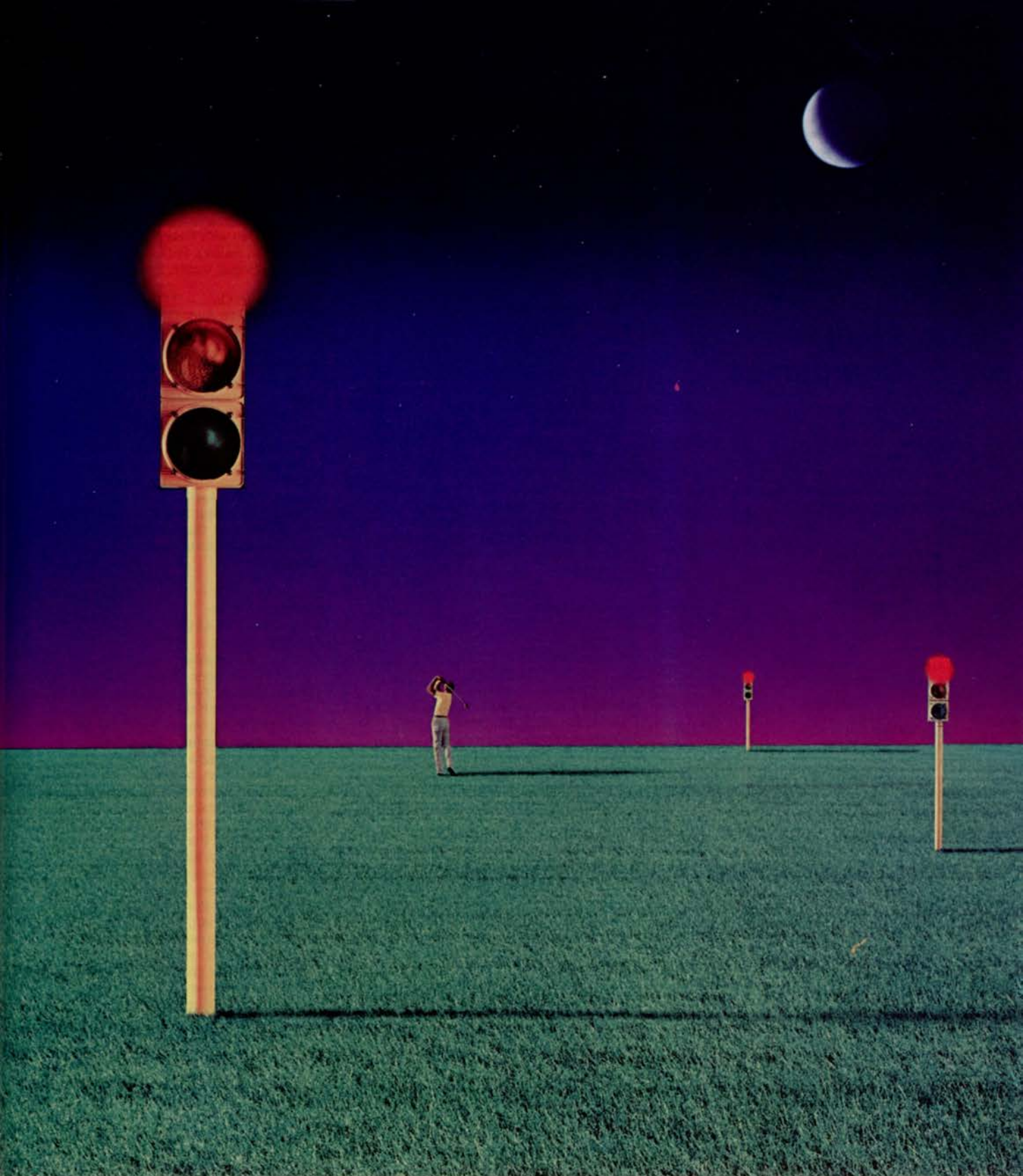
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Rte 3 Box 1120
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806-272-4787
Other: native grasses

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Manteca CA 95336
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Seed coatings

Cenex/Land O Lakes Ag Services
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Salem OR 97305
503-585-7033

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Fescues: Bonanza Turf-type (Tall); Other:
resellers of various public and proprietary
varieties

Fine Lawn Research Inc
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Madison GA 30650
503-636-2600

Kentucky Bluegrasses: Chateau; Perennial Ryegrasses: Pennant; Fescues: Finelawn & Jaguar Turf Type Tall; Turfseed Mixes or Blends: Triple Play Perennial Rye Blend

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Proform Turf Products Div
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Fairfield NJ 07006
201-882-7755
800-435-5296

Kentucky Bluegrasses: Liberty, Eclipse, Midnight, Classic, Adelphi, Glade, Columbia, Challenger; Perennial Ryegrasses: Omega II, Premier, Manhattan II, Citation II, All Star, Regal, Derby; Fescues: Jaguar, Apache, Bonanza, Arid, Tempo Turf Type Tall,

Shadow Chewings, Ensyva Creeping; Bentgrasses: Penncross, Pennlinks, Penneagle, Pennstar, Seaside, Astoria, Emerald, Exeter; Turfseed Mixes or Blends: Proform Polo 50 (Bluegrass/Ryegrass 50/50), Proform Triple Classic Turf Rye Blend (Omega II, Premier, All Star); Other: Native and ornamental grasses, wildflowers

Great Western Seed Co
810 Jackson St
Albany OR 97321
503-928-3100

Kentucky Bluegrasses: Barblue, Baron, Georgetown, Majestic, Mystic, Nassau, Princeton (P104), Ram I, 1757; Perennial Ryegrasses: Cowboy, Diplomat, Palmer, Prelude, Repell, Yorktown II; Fescues: Clemfine Tall, Jamestown Chewings, Rebel Tall, Rebel II Tall, Reptans Creeper, Tribute Tall, Wilma Chewings; Bentgrasses: Astoria, Highland, Penncross, Penneagle, Pennlinks; Turfseed Mixes or Blends: All of the above; Other: Agree Intermediate Ryegrass

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PO Box 326
Farmingdale NJ 07727
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800-526-2303

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Halsey OR 97348
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TWX: 910-240-5575

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Gator; Fescues: Hounddog Tall, Ensyva Creeping Red, Highlight Chewings; Bentgrasses: Emerald, Penncross, Penneagle; Turfseed Mixes or Blends: PhD overseeding blend (Derby, Regal, Gator), Dixie Green (Derby, Highlight), Dixie Green with Sabre (Derby, Highlight, Sabre), PhD with Sabre (Derby, Regal, Gator, Sabre)

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W 5300 Jacklin Ave
Post Falls ID 83854
208-773-7581

Kentucky Bluegrasses: Glade, Fylking, Wabash, Cheri, Eclipse, Nassau, Nugget, Ram I, Huntsville, Merion, Summit, Geronimo, Troy, Classic, Adelphi; Perennial Ryegrasses: All*Star; Fescues: Arid Tall, Safe Forage Tall, Logro Fine; Bentgrasses: Putter Creeping, Streaker Red Top, Penncross, Penneagle, Penway Blend, Pennlinks; Turfseed Mixes or Blends: Four Star Sod Blend (Nassau, Glade, Ram I & Baron); Other: Pinto Wildflower Mixture, Reubens Canada Bluegrass

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BOOKSTORE

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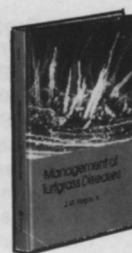
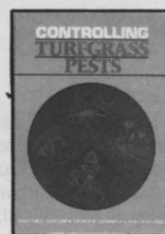
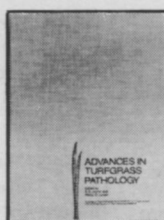
by Joyner and Larsen
Leading U.S. turf pathologists report on turfgrass diseases, pythium blight, snow molds, fairy rings, leaf spot of Kentucky bluegrass in Minnesota, initial and field fungicide screening, turfgrass disease resistance, etc. Contains new ideas on how to combat turfgrass problems. **\$27.95**

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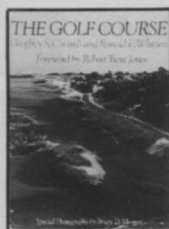
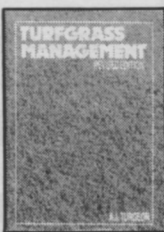
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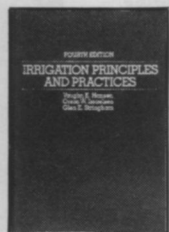
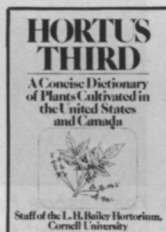


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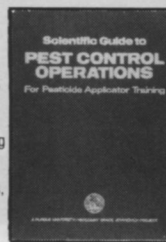


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Jamestown, Creeping Red; Tall-
Chesapeake, Falcon, Mustang;
Bentgrasses: Pennncross, Penneagle,
Seaside, Emerald; Turfseed Mixes or
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503-981-9574
Bentgrasses: Pennncross, Penneagle,
Pennlinks, Pennway

- ★ Turf Merchants Inc (TMI)
PO Box 1467
Albany OR 97321
503-491-3622
800-421-1735
Kentucky Bluegrasses: Gnome, Tendos,
True Blue, Lexington, Rugby; Perennial
Ryegrasses: Pennfine, Manhattan II,
Rodeo, Patriot; Fescues: Tall-Wrangler,
Turfgem, Brookston; Bentgrasses: VIP
Cr. Blend; Turfseed Mixes or Blends: VIP
Overseeding Blend (Pennfine, Manhattan
II, Patriot)

- ★ Turf Seed Inc
PO Box 250
Hubbard OR 97032
503-981-9571
Kentucky Bluegrasses: Midnight,
Columbia, Challenger, Julia, A-34,
Sydsport; Perennial Ryegrasses:
Manhattan II, Citation II, Birdie II, Omega
II, CBS II Blend; Fescues: Tall-Apache,
Olympic, Monarch, Triathalawn Blend,
Shadow Chewings, Aurora Hard,
Bighorn Sheep Bentgrasses: Pencross,
Penneagle, Pennlinks

Vaughan Seed Co
5300 Katrine Ave

Downers Grove IL 60515
312-969-6300
Kentucky Bluegrasses: Adelphi; Perennial
Ryegrasses: All Star, Citation

Vaughan Seed Co
Chimney Rock Rd
Bound Brook NJ 08805
201-356-4200
Kentucky Bluegrasses: Adelphi, Glade,
Cheri, Merit, Touchdown; Perennial
Ryegrasses: All Star, Pennant, Citation,
Regal

Warren's Turf Nursery Inc
Cordelia & Chadbourne Rds
PO Box 459
Suisun City CA 94585
707-422-5100
Kentucky Bluegrasses: Warren's A-34
BenSun; Fescues: Adventure Turf Type
Tall

6. Miscellaneous Services

Agri-Diagnostics Assocs
2611 Branch Pike
Cinnaminson NJ 08077
609-829-0110
Diagnostic services

- ★ Environmental Industries Inc
24121 Ventura Blvd
Calabasas CA 91302
818-992-5900
Landscape services

- ★ ServiceMaster LawnCare
2300 Warrenville Rd
Downers Grove IL 60515
312-964-1300
Lawn care franchises

Velotta Uniform Sales Inc
12429 Cedar Rd
Cleveland OH 44106
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USDA-ARS-BARC
Bldg. 001, Room 333
Beltsville, MD 20705
301/344-3655





"You can't cut grass with headaches. That's why I switched to Buntun."

*Bill Wright, President
Lawn-Wright, Inc., Gaithersburg, Maryland*

"When I started my lawn service business seven years ago I had a push mower and riding tractor. It only took a year to realize I could cut a lot more grass in the same amount of time with one commercial walk-behind mower," says Bill Wright, president of Lawn-Wright, Inc. "Four years later I discovered Buntun. Now I can cut even more grass with the same number of mowers."

The reduction in maintenance headaches compared to his other mowers was so significant that two years ago Bill Wright replaced his eleven mower fleet with Buntuns. Here's why he just bought seven more:

Welded steel deck construction

"With Buntun, the deck is reinforced and welded into a single piece, not bolted together like other mowers. With no bolts to fall out, the problem of sagging decks and misaligned belts and blades was eliminated. Our maintenance went down and quality of cut went up."

Stronger parts/better engineering

"Other manufacturers make caster supports, bell cranks and other parts from aluminum, which breaks easily. Buntun makes them from steel, so they're more durable. And, Buntun has fittings at all critical wear points so parts can be greased to make them last longer."

Better belt system

"Because the belts are wrapped in straight lines without twists or back-bends, our belt life increased by at least five times when we switched to Buntun."

Variable speed drive system

"Buntun's pulleys are larger so we get better belt contact and less slippage, even when they're wet and going up hills. We also get a larger range of speeds with Buntun than with other mowers."

Savings of time and money

"There are many other features on Buntuns that lower my maintenance costs. Overall, I have saved at least \$6,000 in the two years since switching to Buntun, not including the added profit from increased productivity."

If you need more cutting capacity and fewer headaches, discover the profit in converting your fleet to Buntuns. Call for the name of our local dealer.

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A loader joins the army

While the Army Corps of Engineers makes every effort to allow maximum public use while protecting the environment, most of the 13 million visitors to Hartwell Lake don't think in terms of flood control and hydroelectric power. They come seeking relaxation in the outdoors.

The lake is the Army Corps of Engineers' second-most-popular recreation area in the United States, according to the Corps. Available activities include swimming, camping, waterskiing and boating in various combinations at over 80 public recreation areas, 56 of which are managed by the Corps.

Located along the Georgia and South Carolina border in the Piedmont region of the Appalachians, the lake's northern-most fingers stretch into the foothills of the Blue Ridge Mountains.

The Corps' four Bobcat loaders are ideal for the creation and maintenance of campsites and playgrounds and the paths running between them, the lake and other public facilities. The Bobcats maneuver well in small areas.

Railroad ties used extensively as steps and borders around walkways, campsites, picnic areas and playgrounds contribute to the area's natural appearance.

The ties also help to curb erosion. With a fork attachment, Bobcat loaders can maneuver the ties into place.

"They really save a lot on manpower," says assistant foreman Joe C. Higginbotham. "It would take several men all day to do what the Bobcat does in a few hours."

When hill-climbing is necessary, Bobcat loaders, unlike larger equipment, are very handy. Backing into a bank, Higginbotham demonstrates how by planting the bucket into the ground and pushing the Bobcat loader backwards up the mound of dirt a few feet. Then he repeats the process until he has maneuvered to where he wants to be.

"Here's one of the best you'll find," says foreman Dale Byrum. Smaller and more agile than larger bulldozers, Bobcat loaders can level awkwardly shaped camping pads quickly and easily. They also are useful when grading small parking lots.

"It took me just a few hours to do that," says Higginbotham, pointing to a small freshly graded parking lot near the entrance booth to Paynes Creek



The Bobcats maneuver well in small areas.

Campground. "And you can see how the edges slope down there. I smoothed them by dragging my bucket," he explains.

The loaders are useful on larger projects because they can do fine work around the edges, smoothing the surface and pulling rocks and debris from beneath the underbrush without damaging it. Unlike larger machines,



Bobcat loaders are ideal for the creation and maintenance of campsites and playgrounds.

they can clear dirt from the mouth of a drainage pipe easily and without damage to the pipe or road.

Higginbotham and his crew are installing a vehicle pull-off area and telephone on the Paynes Creek Campground road. They'll use a loader to grade the pull-off. To preserve the forest's natural appearance, the telephone lines will be put underground, making it necessary to cut a narrow trench through the forest ground.

"When we get the line in, I'll take the Bobcat in there," said Higginbotham, pointing into the woods. "I can level it and clear the trees out without damaging the others."

The Corps also removes any dead or sick trees that may fall and cause damage or injury. Again, equipped with a fork attachment, a loader can remove the previously cut trees without harming surrounding growth.

In 1986, a small tornado whipped through Paynes Creek, twisting and breaking many trees. The loaders were useful in removing mangled trees from campgrounds and woods.

"Now I'm not bragging," says Higginbotham with a straight face, "but the Bobcats do have their place." **LM**

The U.S. Army Corps of Engineers uses a variety of machinery to accomplish its maintenance work at Hartwell Lake. The Corps does not endorse any particular product over another.



**Harvey
Hardin**

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The only golf course superintendent to have hosted every Bob Hope Classic since the inaugural event in 1960.

"Bermuda Dunes is wall-to-wall Derby turfgrass and has been for six years. Since there are no cart paths except those around greens and tees, Harvey swears by Derby because it holds up."

Golf Course Management, April, 1987

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PROBLEM MANAGEMENT

by Balakrishna Rao, Ph.D.

Fungicides for oak leaf blister

Problem: What can be used to manage oak leaf blister problems? We have used benomyl in the past and haven't had good results. When is the best time to treat for this disease? (Florida)

Solution: Oak leaf blister disease is caused by *Taphrina coerulescens*. Generally, the disease doesn't require any fungicide treatment, but if the disease is severe, the galls can distort the leaves which may be unsightly and eventually may defoliate. In these situations a fungicide treatment may be very beneficial. One application of fungicide before bud break is very important. Applications made after bud break are generally not effective.

Different universities recommend different fungicides as more effective. Some of the fungicides found to be effective are fixed copper, Mancozeb, Zineb, Maneb, Ferbam or Captan. Reports from Penn State suggest that one dormant application of Zineb 75 percent WP before bud swell in the spring is very good. Since benomyl is not recommended for this problem by extension personnel, consider switching to one of the above fungicides. Apply Mancozeb or Zineb at or just before bud break, or at the first sign of disease development. Read and follow label specifications for best results.

Fertilizer and Roundup

Problem: Is it true that the addition of fertilizer can increase the effectiveness of Roundup? What kind and rate of fertilizer is recommended? (New York)

Solution: Yes, it is true that the addition of fertilizer can improve the effectiveness of Roundup. Reports from South Dakota State University indicate that the addition of ammonium sulfate fertilizer to Roundup improved weed control by 40 to 60 percent. If the carrier is hard water, the product can be tied up and may not be properly absorbed by leaf surfaces.

Therefore, the addition of ammonium sulfate to the mix can reduce this tie-up and give better weed control. Their studies showed that when dealing with weeds such as downy brome (cheat-grass) it is best to spray just before the emergence of seedhead. This timing of application might be true with some other weeds too; however, further study is needed.

The labeled application rate for ammonium sulfate is 17 lbs./100 gal. of mixture. Try to use superior quality products.

To tank mix, first add the fertilizer through a screen and dissolve it in water in the tank. The volume of water and fertilizer should be two-thirds the total volume of mix required. Then add the herbicide to the tank mix. Read and follow label specifications for best results. Nonionic surfactants can also be used to improve control of some weeds.

Another approach is to mix 2,4-D or dicamba with

Roundup and apply on actively growing weeds. However, mixing these products may cause the formation of a white precipitate which can clog the sprayer nozzles. Pretesting would be required before mixing or using these combinations.

Disease-free plants

Problem: We come across a number of clients who ask for disease-free plants. A listing of disease-free plants would be useful in our landscaping business. Would you please provide a list. (Ohio)

Solution: Trees relatively free of disease:

*Atlas Cedar *Cedrus atlantica*; Amur Cork-Tree *Phellodendron amurense*; Bald Cypress *Taxodium distichum*; Beech *Fagus grandiflora* & *F. sylvatica*; and Cedar of Lebanon *Cedrus libani*.

Cedrela *Cedrela sinensis*; *China-Fir *Cunninghamia lanceolata* Cork-Tree *Phellodendron* sp.; Cucumber-Tree *Magnolia acuminata*; and *Dove-Tree *Davidia involucrata*.

Eucommia *Eucommia ulmoides*; Franklinia *Franklinia altamaha*; Ginkgo *Ginkgo biloba*; *Glossy Privet *Ligustrum lucidum*; and Golden Larch *Pseudolarix amabilis*.

Honey-Locust *Gleditsia triacanthos*; Hop Hornbeam *Ostrya virginiana*; Hornbeam *Carpinus caroliniana*; Japanese Plum Yew *Cephalotaxus drupacea*; and Japanese Raisin-Tree *Hovenia dulcis*.

Japanese Torrey *Torreya nucifera*; Japanese Yew *Taxus cuspidata*; Kalopanax *Kalopanax pictus*; Katsura-Tree *Cercidiphyllum japonicum*; and Kentucky Coffee-Tree *Gymnocladus dioica*.

Larch *Larix decidua* & *L. eurolepis*; Magnolia *Magnolia* sp.; Parrotia *Parrotia persica*; Pawpaw *Asimina triloba*; Persimmon *Diospyros virginiana*; *Phoenix or Chinese Parasol-Tree *Firmiana simplex*; and Sassafras *Sassafras albidum*.

Silverbell-Tree *Halesia monticola*; Snowbell *Styrax japonica*, *S. obassia* & *S. dayantha*; Sorrel-Tree or Sour Wood *Oxydendrum arboreum*; Stewartia *Stewartia pseudo-camellia* & *S. koreana*; Sweet Gum *Liquidambar styraciflua*; Tree-of-Heaven *Ailanthus altissima*; Tupelo *Nyssa sylvatica*; Turkish Hazelnut *Corylus colurna*; Umbrella-Pine *Sciadopitys verticillata*; Yellow-Wood *Celastrus lutea*; and Yew *Taxus* sp.

*Trees generally hardy only as far north as southeastern Pennsylvania.



Balakrishna Rao is Director of Lawn Care Technical Resources for The Davey Tree Co., Kent, Ohio.

Questions should be mailed to Problem Management, Landscape Management, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2-3 months for an answer to appear in the magazine.

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Just how toxic are golf course chemicals?

Paul Sartoretto, Ph.D., W. A. Cleary Chemical Corporation

For the past fifteen years, I have been going around the country speaking at regional or monthly meetings of the Golf Course Superintendents on the subject of tank mixing pesticides with the emphasis on compatibility and avoiding phytotoxicity.

A relationship between human toxicity and phytotoxicity exists primarily because of the close similarity of the toughness of the epidermis of the grass blade and our outer skin. The skin of the grass blade has its stomates through which air and water pass in and out. Human skin has pores through which water diffuses.

In my talk, I make a general broad statement that all the insoluble pesticides can be tank mixed and sprayed and you will not incur phytotoxicity. The reason is obvious. Even though the insolubles have to be ground down to micron size in order to get them to disperse in water, the micron particles are too large to diffuse through the stomates.

They have to be thousands of times smaller, actually molecular in size and in solution to diffuse into the cells of the grass blade. The same principle applies to our outer skin. The insolubles cannot be absorbed through our pores because the particles are too large, and only the solubles that are molecular in size can diffuse through the skin.

Superintendents can take a certain amount of comfort in knowing that you work with a large number of insolubles and that they cannot penetrate our tough outer layer of skin. Epidermal toxicity with insolubles (wetttable powders and flowables) is non-existent to a very high degree.

You can see how doubtful the claim was that a golfer died from dermal exposure to Daconil 2787, an insoluble, sprayed on the grass. No way could Daconil have diffused into his body.

It could be argued that Daconil vaporized and he breathed in a sufficient amount of it to poison him. But this mode of toxicity is doubtful with Daconil. In the same way a grass plant breathes through stomates and receives nutrition through the stomates and the roots, humans breathe through our lungs and receive nutrition through our mouths, and, then via the alimentary canal, by digestion into the blood stream.

We measure toxicity primarily by the minimum lethal dosage (MLD) neces-

TOXICITY OF PESTICIDES			
Expressed as Minimal Lethal Dosage necessary to kill 50 percent of the test animals by ingestion expressed in milligrams per kilogram body weight MLD ₅₀ mg/kg.			
INSECTICIDES		FUNGICIDES	
DASANIT	4	ACTIDIONE	2
NEMACUR	15	PMAS	40
OFTANOL	32	CADDY	88
MOCAP	62	BAYLETON	363
DURSBAN	135	CADMINATE	660
DIAZINON	300	THIRAM	780
PROXOL	450	BANNER	1517
SEVIN	500	KOBAN	2000
METHOXYLCHLOR	6000	RUBIGAN	2500
HERBICIDES		CHIPCO 26019	3500
PARAQUAT	150	DYRENE	5000
2,4DP	300	ALLIETTE	5800
2,4-D	375	FORE	7500
DSMA	600	FUNGO	7500
MSMA	700	BANOL	7860
BETASAN	770	DACONIL 2787	10,000
MCPP	930	TERSAN 1991	10,000
DICAMBA	1040	PCNB	15,000
PENDIMETHALIN	1250	3336	15,000
DACTHAL	3000		
BALAN	10,000		

sary to kill an animal by ingestion. Let us use aspirin as a bench mark to compare with our pesticides. It takes 1750 milligrams of aspirin for every kilogram of body weight to kill 50 percent of the animals ingesting it. The MLD₅₀ of aspirin is 1750—that's about six aspirin tablets. An adult weighing 50 kg (110 lbs.), by extrapolation, would die from 50 times the dosage or 300 aspirin tablets. In actuality, 10 times the dosage or 60 aspirin is fatal—17.5 grams, about 2/3 of an ounce. Reference is Merck Index.

But Daconil 2787 has an MLD₅₀ of 10,000 mg. That is six times safer than aspirin. That golfer would have had to ingest 100 grams or over three ounces of Daconil to have killed him. That's unlikely.

In my speech on how to avoid phytotoxicity, I generalize by saying insolubles cannot burn, but solubles can. You must exercise caution in their use.

We have been comparing an insoluble Daconil with a soluble aspirin. Aspirin is a safe soluble, but there are a number of solubles that you use that are not as safe as aspirin. Keep in mind the MLD₅₀ of aspirin as a bench mark.

You may have read recently about a fanatic that has been killing a lot of household pets in North Carolina by lacing pet food with the pesticide Disyston, an insecticide used by farmers. The MLD₅₀ of Disyston is about three mg. per kg. A cat or dog doesn't weigh

much more than three or five kg., so a lethal dose is not much more than 20 mg., the equivalent of a couple pinches of salt.

Disyston is a thiophosphate insecticide not much different than the thiophosphate insecticides you use, except yours are safer. Oftanol is 10 times safer with an MLD₅₀ of 32; Dursban is about 50 times safer with MLD₅₀ of 135; and Diazinon 5 is 100 times safer with MLD₅₀ of 300.

Nevertheless, these are low MLD₅₀'s and the concentrates are potentially dangerous. They act on insects and humans in the same way, poisoning the nervous system.

Ironically, granular Diazinon, which is the safest of the three, has been suspect for use on golf courses in some areas because of unfortunate misuse. They are usually formulated as emulsifiable concentrates, dissolved in an organic solvent, with an emulsifiable agent added. These, in turn, are to be mixed with large volumes of water sprayed on the golf course. It is further recommended that they be watered in to get to the grubs.

The same emulsifiable concentrate can be mixed with a granular carrier such as corn cobs or vermiculite so that they can be applied with a spreader. They, too, should be washed into the soil with large volumes of water.

If the corn cob is laced with Diazinon it becomes a tempting poisonous morsel for a bird. Birds weigh

continued on page 96

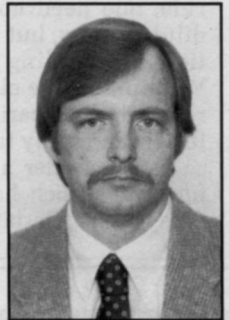
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Entry forms are now being accepted by the Professional Grounds Management Society and Landscape Management magazine for their second annual "Landscape Manager of the Year" award.

Purpose of the award is to recognize superior job performance among landscape managers, to challenge those involved in the industry to achieve higher standards of excellence, and to bring national recognition to deserving managers.

Any person directly responsible for the professional maintenance of one or more landscapes is eligible to enter. Applicants will be judged according to job performance, honors and awards, procedures and philosophies, and contributions to the green industry. Applicants will be asked, at the time of entry, to submit four 5 x 7 black-and-white glossy photos and 10 color 35mm slides of current work areas with a short narrative on each.

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Mail to: PGMS, Landscape Manager of the Year, 1201 Galloway Ave., Suite 1E, Cockeysville, MD 21030

less than a kilogram, so all they have to ingest is about the amount of diazinon that is equivalent to the amount of a baby aspirin.

Unlike the insolubles, the solubles can be absorbed through the skin. As a rule, one need not worry about the diluted spray, but must exercise caution in handling the concentrates. Wear protective clothing and a respirator when preparing the diluted mixture in the spray tank.

Let's consider a prominent soluble fungicide which has been around for many years. Despite a startlingly high

toxicity, you have used it successfully for decades without any fear that it is hazardous.

This product is Actidione TGF—an antibiotic! Antibiotics are safe; haven't we all taken antibiotics prescribed by doctors? Well, this one has a MLD₅₀ of two mg. per kg.! But Upjohn, the manufacturer, did an excellent job of formulating the product to market it in a form that was non-poisonous.

A product must bear a skull and crossbones label if the formulated material has an MLD₅₀. By diluting Actidione with inerts so that you received

a two percent mixture, the formulated product then had an MLD₅₀ of 100.

Upjohn asked the consumer to dilute the product with water at the rate of one oz. per three gallons of water. The diluted spray then had an MLD₅₀ of 37,500.

This example emphasizes the importance of exercising great care and caution working with the formulated concentrate and at the same time demonstrates the minimal danger of handling the diluted spray. Actidione was taken off the market because EPA challenged the risk factor and Nor-Am made the business decision to drop the product.

I've included a table of the MLD₅₀'s of all the pesticides available to the golf course superintendent. This data was taken from W.T. Thomson's Agricultural Chemicals 1985-86 Revision. Bear in mind that the LD refers to the pure active ingredient, so that if you want the MLD₅₀ of the formulated product, you divide by the percentage of active. For example, Caddy is 20 percent cadmium chloride solution. Since cadmium chloride has an MLD₅₀ of 88, dividing by 0.2, the MLD₅₀ of Caddy becomes 440.

Nothing in my talk should be interpreted as a suggestion that you can ignore safety in using pesticides. Read and follow the label instructions carefully! Read the Material Safety Data Sheet carefully! Follow the manufacturers' recommendations on personal protective equipment required. It is better to be overly safe than sorry. **LM**

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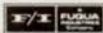
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The coming months in LANDSCAPE MANAGEMENT

OCTOBER

A special pull-out report on golf course management will be featured, along with our annual turfseed availability outlook. Also in the spotlight will be utility vehicles.

NOVEMBER

Use large equipment? Look for a special feature on backhoes and front-end loaders. Also, a pull-out section on lawn care, celebrating the annual Professional Lawn Care Association of America's convention and trade show.

DECEMBER

The green industry itself will be in the spotlight with our annual "State of the Industry" report, along with a pull-out report on government landscape management. And this will be a saveable issue with our annual Golf and Turf Calendar.

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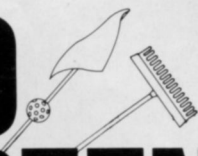
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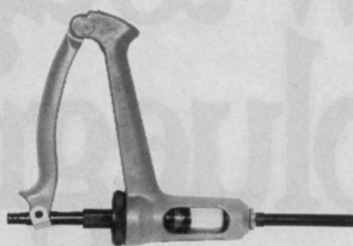
Circle No. 158 on Reader Inquiry Card

PRODUCTS

Spot herbicide applicator reduces material costs

The Phillips Applicator from Eidson & Associates allows selective herbicide application to weeds, brush and weed trees. Spot treatment reduces material and labor costs and permits reduced chemical carryover.

The lightweight applicator can go anywhere the operator does, and resembles a large syringe that can be aimed directly at the problem area.



Spot applications can be adjusted for proper rates.

Circle No. 197 on Reader Inquiry Card

Compact core aerator is self-propelled

The Powerplug is F.D. Kees' new core aerator. Compact and easy to transport, it is powered by a 5 hp Briggs & Stratton I/C engine with crankshaft style aerating mechanism.

The self-propelled unit covers more than one-third acre per hour, its replaceable stainless steel tines producing a 16-inch pattern. A single lever adjusts the penetration depth from one-half to two inches.

Other features include a 6:1 gear reducer, handle-mounted throttle, fold-over handle and a three-quart fuel tank.

Circle No. 198 on Reader Inquiry Card

With this fish snacking, weeds are sent packing

The white amur, a small fish native to China, controls underwater vegetation, eating weeds, moss, algae, grasses and all submergent weeds.

The fish can only be bred in conditions simulating hatching conditions in China's Amur River. The fish, while it won't reproduce outside of those specific conditions, has a lifespan of 12 to 15 years, controlling vegetation throughout.

It has been tested in the United States since 1958 in agricultural and

industrial waters, golf course ponds, municipal water supplies and lakes.
Circle No. 199 on Reader Inquiry Card

Utility trailer designed for small hauling jobs

The KKT 100 Utility Trailer from Dethmers Manufacturing Co., combines a tailgate/loading ramp plus a tilt deck allowing easy loading and unloading of garden tractors, golf cars, building materials, etc.

It features 13-inch rally wheels, a 71 x 96-inch flatbed, 5/8-inch exterior plywood floor and a complete lighting package.

Circle No. 200 on Reader Inquiry Card

Multiple-purpose tractors are in town

Farm tractors are moving to town as landscape managers discover the advantages of versatile, multi-purpose machines of moderate horsepower.



That's why the Deutz-Allis 6265 tractor is becoming popular in the landscape market. With a flail mower mounted on a front PTO shaft and two belly-mounted flail mowers driven by a rear PTO, the 65 hp tractor can cut a swath from 8 to 18½ feet wide.

Circle No. 201 on Reader Inquiry Card

Engine series unveiled at Power Equipment Show

Kohler Engine Division introduced a new series of engines at the International Lawn, Garden and Power Equipment show in Louisville in July.

The first models introduced were the 5 hp horizontal shaft and 12.5 hp vertical shaft engines. Both feature overhead valve design and low noise and vibration. The 12.5 hp model also features automotive-type hydraulic lifters and full pressure lubrication.

Circle No. 202 on Reader Inquiry Card

THIS TEST WON'T HOLD WATER —OR AIR.



Water passes easily through highly permeable Duon Weed Control Mat.



Just blow through Duon to see how easily air passes through it.

The proof is stronger, longer lasting plants with **DUON**® Weed Control Mat.

Both water and air pass easily through Duon Weed Control Mat, made of Phillips Fibers non-woven polypropylene. As a landscaper, you know how important that is to a plant's root system and to the future well-being of your big landscape jobs—especially those you use as references.

When water and air can't get through, plants die. Black plastic won't work for the long-term. And woven polypropylenes are nowhere near as permeable as nonwovens. For example, the air permeability for nonwoven Duon is about 14 times greater than for woven polypropylenes and the water

permeability for Duon is about 10 times greater.

Put our words to the test. Hold Duon under running water, then take another piece and breathe through it. Then try the same test with a competitive weed control mat.

When covered from sunlight, Duon is virtually permanent. It allows plants to thrive and impedes about 95% of weed growth (in most areas). It also keeps mulch from going down into the soil.

For your quality landscape jobs, order Duon. For further information, call Phillips Fibers (803) 242-6600.

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Circle No. 146 on Reader Inquiry Card

LETTERS

Weeds or natives?

To the editors:

I would like to make a comment regarding the article by Carl Kovac in the February 1987 issue of WEEDS TREES & TURF, entitled "The Emerald Neckalce." Mr. Kovac's reference to weeds being allowed to grow in the park system reflects a lack of knowledge on his part regarding native plants. Following his reference to "weeds," he refers to Joe-pye and common milkweed, implying that these are classified as weeds. In reality these plants are part of a native plant community and are, therefore, not weeds at all. Plants which are sold by nurseries and which are introduced from Europe, Asia and other areas of the world are technically weeds when located in natural settings.

Unfortunately, many individuals who are involved in landscape maintenance think of our native plants as weeds. This is unfortunate since our native plants have much to offer and they reflect the true American landscape in contrast to man-made landscapes filled with European and Asian plants. Please share my comments

with Mr. Kovac so that he will become more informed of the natural landscapes.

Richard Ehrenberg

University of Wisconsin-Whitewater
Whitewater, Wisc.

On Design

To the editors:

I would like to make a suggestion concerning your new feature on landscape design. The projects designed by landscape designers and installed by landscape contractors need to have a follow-up sequence three to five years after installation. Too many of these projects look at the aesthetic for now without considering physiological conditions and how they may impact on a living plant. In fact, there appear to be many landscape designers without any concept as to how a plant grows. Therefore, award-winning projects should be noted and a follow-up picture requested three to

five years from installation or completion time. A critique as to any change at that time would be appropriate if you publish side-by-side before and after pictures.

I see too many plants fail in locations and/or planting techniques when it is obvious people did not know what they were doing. But it looked good on paper and the first year or two after installation.

Robert E. Partyka

ChemLawn Services Corp.
Columbus, Ohio

Upside down?

To the editors:

As an avid reader of WEEDS TREES & TURF, let me laud you both on the quality of your magazine and on your decision to change the name to something that more accurately reflects the issues it must address today.

I would appreciate it, however, if you might clear up a little confusion I



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have regarding the bit entitled "Damage Dilemma" (March 1987). Am I mistaken, or is the photo for number 10 on page 74 upside down? Everyone I show the picture to agrees that something just doesn't seem right.

Oh well, that is a trivial matter. Please keep up the good work.

Scott A. Sabol
Dartmouth College
Hanover, Mass.

Editor's note: Yes, that photo is upside down.

Congratulations

To the editors:

Our 23 years with WT&T have experienced many changes in progress and growth not only with the features of your magazine but also in the capabilities of our own company. At times your pages came apart at the seams from handling. My sons used WT&T articles for school projects; my grandsons saved the WT&T listing our company as #2 land-

scape contractor (February, 1987).

We stand and applaud WT&T and all the persons over the last 23 years that produced a quality publication, often quoted, sometimes clipped or saved, rarely disappointing and always anticipated each month. You all did a great job and should be very proud.

With open arms and with unlimited wishes and support for success, we LANDSCAPE MANAGEMENT.

Edmond De Laurentis,
De Laurentis Construction Co.
Mamaroneck, N.Y.

drainage matrix will produce one of the finest playing surfaces available—bar none. The good news is that such a renovation costs only about half the amount quoted by Dr. Indyk.

Some of the major stadiums using this method of renovation are Comiskey Park, Milwaukee County Stadium and the Memphis Liberty Bowl. But we would rather emphasize the communities which have found out that you don't have to break the budget to have the best: Eugene, Ore.; Schaumburg, Ill.; Huntsville, Ala. and many others.

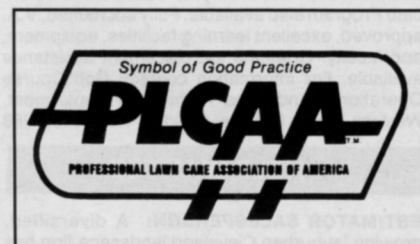
William M. Ellis
Cambridge Soil Services
Glenco, Calif.

Hard Knocks

To the editor:

I was very pleased to see the June 1987 issue of LANDSCAPE MANAGEMENT devoted to athletic field safety.

I must admit I was a little surprised not to see bypass drainage systems mentioned. A total football field renovation and installation of a sand-silt



We are expanding.

If you are looking for a career opportunity rather than just another job, consider linking your future to ours. We are looking for experienced people in the following areas:

- ☐ **Environmental Care Inc.**
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- ☐ Phoenix ☐ Houston

Send resume to:



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Landscape Maintenance Services

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Personnel Department
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BOX NUMBER REPLIES: Mail box number replies to: WEEDS TREES & TURF, Classified Ad Department, 1 East First St. Duluth, MN 55802. Please include box number in address.

BUSINESS OPPORTUNITIES

FLORIDA LANDSCAPE MAINTENANCE BUSINESS in a rapidly growing area. Commercial and Residential accounts. Turnkey operation with training. Asking \$35,000. Call 813-283-5746 after 6 pm. 9/87

WANT TO BUY OR SELL a golf course? Exclusively golf course transactions and appraisals. Ask for our catalog, McKay Golf and Country Club Properties, 15485 N. East Street, Lansing, Michigan 48906. Phone (517) 484-7726. TF

EDUCATIONAL OPPORTUNITIES

MOVE UP IN THE GREEN INDUSTRY. 2 year AAS Degree program in Golf Course Superintending, Irrigation Management, Landscape Contracting and Park Supervision. 1 year Technicians Certificate Program also available. Fully accredited, V.A. approved, excellent learning facilities, equipment, and faculty. Graduate job placement assistance available. For information contact: Golf Course Operations/Landscape Technology Department, Western Texas College, Snyder, TX 79549. 1/88

HELP WANTED

ESTIMATOR SALESPERSON: A diversified, growing, suburban Cleveland landscape firm has an opening for a landscape Estimator/Salesperson for commercial projects. Applicants must have experience in commercial landscape contracting and a college degree in a related field, ability to deal with landscape architects and general contractors needed. We are looking for a highly motivated individual with a proven record to help us grow. If you are qualified for this career opportunity, please send resume, work and salary history to Chagrin Valley Landscaping, P.O. Box 391002, Solon, OH 44139. 9/87

LANDSCAPE MAINTENANCE FOREMEN NEEDED: Expanding commercial landscape maintenance firm servicing Dallas/Ft. Worth areas. Knowledge of industry a must. Send resume to: **GROUND TECH INC.**, 2036 Bedford Road, Bedford, Texas 76021. 9/87

Fleet Superintendent/Equipment Coordinator to perform maintenance on diesel/gas equipment 80 h.p. to 1 h.p. and coordinate the use of equipment throughout the state of Florida. Please send resume to Quandt-Ayer Enterprises, P.O. Box 271880, Tampa, FL 33688. 9/87

Growing Landscape firm, located in Southwestern U.S. has openings for qualified Operations Director responsible for all landscape installation projects and qualified Maintenance Superintendent. Require minimum of 7 yrs. Commercial Landscaping installation, and/or Maintenance Management, and outstanding supervisory skills. Degree in Landscaping or related field desirable. Salary and benefits commensurate with experience. Send resume and salary needs to LM Box 435. 11/87

ASSISTANT TO PRESIDENT/ARBORIST SALES POSITION: Outstanding opportunity to join and grow with Westchester's fastest growing Tree Care Company. All benefits. Send resume to Ms. Michele Gerards, Sav-A-Tree of Westchester, Inc., P.O. Box 527, Armonk, NY 10504-0527. 9/87

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Excellent growth opportunity with Connecticut's largest landscaping firm. Complete Interior and Exterior Construction and Maintenance Departments. Candidates should have an "A.S." or "B.S." in Horticulture or equivalent in experience also two years experience supervising and motivating people. Excellent company benefits. Salary commensurate with experience. Send resume with education, experience, and salary history in confidence to:



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Experienced Sales Representative. If you have experience in arboricultural sales and aren't getting anywhere, we may have the position for you. Equity positions available (but not required) with a proven track record. We are a Midwestern full service tree care company with a plan and a commitment to growth (including other areas of the country) and personnel development. Management as well as sales positions (or a combination) available. You should have both field experience and a proven and documentable sales track record in arboriculture. All replies kept in strictest confidence. Please send resume, sales record and salary history to LM Box 438. Equal Opportunity Employer. 9/87

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Positions are available in various Florida metropolitan areas & also Phoenix, Palm Springs and Salt Lake City.

Our firm has an established growth pattern and record of profit sharing. Interested and qualified candidates should submit resume and salary history in confidence to:

Brad Gerson
LESCO, INC.
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Equal Opportunity Employer

Landscape Maintenance Salesperson position available with Yardmaster, Inc. in Cleveland, Ohio. Excellent compensation plan and benefits. Join Ohio's largest design/build and maintenance firm. Send resume or call **YARDMASTER, INC., 1447 N. RIDGE RD., PAINESVILLE, OH 44077, 216-357-8400.** 10/87

LANDSCAPE MAINTENANCE AND CONSTRUCTION FOREMEN: Suburban Cleveland firm is seeking experienced individuals who can work together with other people. Must be hard working, organized and capable of directing a project from beginning to end. Salary commensurate with experience. Send resume to: P.O. Box 391002, Solon, OH 44139. 9/87

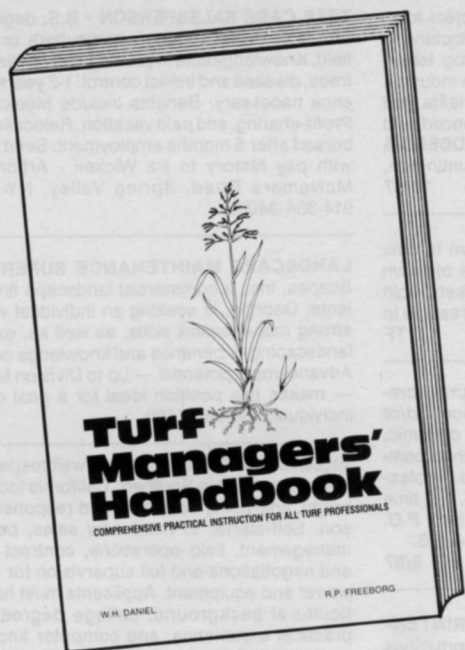
Landscape maintenance sales position available in So. California. Sales experience preferred. Send resume/work history to Adco Service Co., 933 So. Greenwood Ave., Suite H, Montebello, CA 90640. 9/87

Farm Advisor-Environmental Horticulture: The University of California, Division of Agriculture and Natural Resources, Cooperative Extension is seeking a career-track academic candidate to conduct a county-based educational and applied research program in Landscape and Turf Mgmt and water/plant usage. Increase productivity and efficiency of various enterprises which comprise the environmental horticulture industry in San Diego County. A min. of Master's degree or equivalent in horticulture or related field and minimum of two years related experiences in env. hort. industry is required. Assure affirm. action in development and delivery of programs. Salary in the Asst. Advisor rank. For complete description contact: UC Cooperative Extension Personnel, 6th Floor, 2120 University Ave., Berkeley 94720. 415/644-4320. Close 10/16/87. Refer to A-86-158. Affirmative Action Equal Opportunity Employer M/F/H. 9/87

Production Foremen, Crew Leaders, Climbers: Aggressive Midwestern full service (no line clearance) arboricultural firm needs experienced self-starters to help us grow. Outstanding benefit and employment package. Emphasis on employee development, quality service, and safe work practices. All applications kept in strictest confidence. Please send resume and salary history to LM Box 437. Equal Opportunity Employer. 9/87

Top Firm Needs Top Person: Quality conscious, Texas based landscape management firm has immediate opening for detail oriented Operations Manager and/or Business Manager. If you have outstanding professional, managerial and horticultural skills and are not afraid of hard and healthy teamwork, then you could qualify for a top position with the finest landscape firm in the southwest. Outstanding compensation and opportunity. Reply today to LM Box 434. 9/87

HELP WANTED - PESTICIDE APPLICATOR: Position for trained, educated and experienced Turf and Ornamental Applicator to work with a grounds care corporation. The general scope of the work will include diagnosis and control of insects and disease on bluegrass and ornamental shrubs. We offer excellent benefits and the opportunity to work with imminent professionals. Send resume and salary history. **CARMINE LABRIOLA, INC.,** Providing Horticultural Services to Corporate Landscapes. 200 JOHNSON ROAD, SCARSDALE, NEW YORK 10583. 9/87



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HELP WANTED

LANDSCAPE SUPERVISOR - Detroit area landscape firm, seeking motivated individual. Experience in residential, commercial landscape plans. Plant material and construction techniques. Benefits, salary - \$25-35,000. Resume: P.O. Box 314, Walled Lake, MI 48088. 9/87

San Francisco Bay Area landscape firm seeks individual with strong horticultural, irrigation, supervisory, and client relation skills for Landscape Management Supervisor position. Learning and growth opportunities with established company. Salary and benefits. Letter and/or resume to Landscape Care Company, 4026 Pacheco Blvd., Martinez, CA 94553. 10/87

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Nationwide Service Company is starting a brand-new Lawn Care division. Initial branches will be in major metropolitan areas in FLORIDA. We have immediate need for:

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We need experienced, aggressive, results oriented people desiring growth above initial management assignment. Degree and appropriate Florida licenses desirable. Superior salary and benefit packages include: Medical, dental, profit-sharing, and stock purchase plan.

If you desire to be in on an exciting — Sky's the Limit, start up opportunity, forward a resume with salary history (mandatory) in absolute confidence to LM Box 432.

MARKETING MANAGER - National NYSE company based in Dallas, is expanding marketing of its turf and grounds care line, and is seeking qualified Marketing Manager. Program includes complete product and equipment line, features customer soil analysis, and is supported by national advertising. Responsibilities include: preparation of yearly marketing plan, marketing segmentation, market identification, new product introduction, development of product strategy, and positioning and promotions. Experience in grounds industry necessary. Please send resume and references to LM Box 436. 9/87

LANDSCAPE FOREMAN - Located in the beautiful, horse country of Lexington, KY. The nation's 2nd oldest landscape nursery is looking to add to its landscape department. Applicants must have experience in reading blueprints, spacing, methods of sole preparation, managing 3-4 man crews, and knowledge of horticultural equipment. Compensation includes full set of benefits plus top pay. If qualified, please send resume and salary history to: Hellenmeyer Nurseries, Inc., 2370 Sandersville Rd., Lexington, KY 40511, ATTN Stephen Hillenmeyer.

MANAGEMENT: Ever-Green Lawns Corporation, a division of the multi-national Hawley Group, Ltd. is looking for experienced lawn and tree care professionals. Please respond in writing only to Richard D. Niemann, Corporate Recruiter, Ever-Green Lawns Corp., 1390 Charlestown Industrial Drive, St. Charles, MO 63303. TF

Landscape Architects/Supervisors (project foremen) to join a nationally acclaimed firm looking to expand into its second generation Long Island area supports a high budget landscape industry. Year round employment, company benefits and continuing education available. Experienced and aggressive people send resume to: **GOLDBERG & RODLER, INC.**, 216 East Main Street, Huntington, New York 11743. 10/87

CAREER OPPORTUNITIES: ChemLawn is now accepting applications for the positions of Lawn Specialist in our expanding Florida Markets. Join the Nation's Leader in Lawn Care. Send resume to LM Box 422. TF

HELP WANTED: Landscape, turf and spray foremen, nurserymen and pruners. Experience and/or education necessary to work for our dynamic, quality oriented, large, 40 year established company in the Hamptons on Long Island. Professional wages and benefits, year round, full time positions. Contact: Whitmore-Worsley Inc., P.O. Box 10, Amagansett, NY 11930. (516)267-3756. 9/87

LANDSCAPE MAINTENANCE SUPERINTENDENTS AND FOREMEN: Excellent opportunities for hard working, experienced individuals to work with an expanding Southern California commercial maintenance firm. Ability to plan, organize and supervise essential. Positions available in Los Angeles, Orange and San Diego Counties. Excellent salary and benefits. Send resume to or call: **PACIFIC GREEN CARE**, 1065 No. Batavia, Orange, CA 92667, 714-633-2404. 9/87

GROUNDS SERVICES SUPERINTENDENT up to \$2,901 approx. monthly (plus an extensive benefits package). San Bernardino County is recruiting for a Grounds Services Superintendent who will be responsible for directing, planning, designing and supervising the landscaping and maintenance of grounds and gardens adjacent to County facilities. One year of experience in managing and supervising a large landscaping and maintenance operation in a governmental, industrial or business environment is required. In addition, 24 semester (36 quarter) units of completed college level coursework in landscape, design and/or horticulture is also required. San Bernardino County is located in sunny Southern California approximately 60 miles southeast of Los Angeles. Qualified applicants should apply by October 9, 1987 at San Bernardino County Personnel Office, 157 West 5th Street, San Bernardino, CA 92415 (714)387-5591/8304. 9/87

Experienced Sod Farm Manager. Must be experienced in all phases of sod production. Farm located in Southwestern U.S., 801-756-9900. 9/87

ARBORISTS: ASSISTANT FOREMAN AND FOREMAN positions available. Top pay and benefits including medical plan, paid sick and vacation time, education and year round work. You should be experienced in shade tree and ornamental pruning, landscape planting and spray operations. An excellent chance to work for a top quality company in suburban Boston. **CALL LUDERS TREE AND LANDSCAPE** @ 617-359-4855 OR 617-444-0994. 9/87

Seeking manager to develop and expand our maintenance department, demonstrable experience in the areas of maintenance sales and production required. Expect first year sales of \$300,000, and be willing to base salary upon sales and production. Seeking individual who is willing to believe in himself, perform, and be paid handsomely for his initiative. **AYS Landscape Company**, 31 W. 545 Diehl Road, Naperville, IL 60540, (312)983-0094. 12/87

TREE CARE SALESPERSON - B.S. degree preferred in Urban forestry, horticulture or related field. Knowledgeable in pruning and fertilization of trees, disease and insect control. 1-2 years experience necessary. Benefits include Medical Plan, Profit-sharing, and paid vacation. Relocation reimbursed after 6 months employment. Send resume with pay history to Ira Wickes - Arborists, 11 McNamara Road, Spring Valley, NY 10977, 914-354-3400. 12/87

LANDSCAPE MAINTENANCE SUPERVISOR: Scapes, Inc., a commercial landscape firm in Atlanta, Georgia, is seeking an individual who has strong management skills, as well as, extensive landscaping experience and knowledge of plants. Advancement potential — up to Division Manager — makes this position ideal for a goal oriented individual. 404-956-7500. TF

ARBORISTS: Fast moving and well respected arboricultural firm in Southern California looking for bright, energetic, dedicated and responsible person. Self-starter to head new sales, personnel management, field operations, contract bidding and negotiations and full supervision for all manpower and equipment. Applicants must have horticultural background, college degree, direct practical experience, and computer knowledge preferred. Salary commensurate with background. Good company benefits with strong growth potential. Send resume with salary history (mandatory) in strictest confidence to LM Box 430. 9/87

LANDSCAPE CONSTRUCTION FOREMAN - Excellent opportunity for hardworking individual with growing landscape company. Must have 3 to 5 years experience in all phases of landscape construction. Year-round position. Good salary, based on experience, with overtime. Call or write Thunder Landscaping Incorporated, P.O. Box 411, Hudson, Ohio 44236, phone 216-655-2044. 9/87

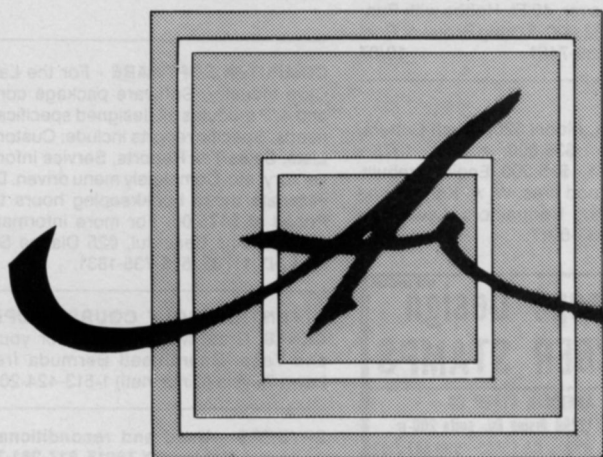
Gibbs Landscape Company - Landscape and grounds maintenance. High caliber people needed to assist award winning company doing quality work in Atlanta area. Must have good driving record, and transportation. Offer good pay, and benefits. If you are dependable and industrious, send resume: Attn: Mike Sherman, 4111 Burge Road, Smyrna, GA 30080. (404)432-7761. 9/87

Lawn Care and Lawn Maintenance Assistant Manager: Leading Horticultural Company since 1929 is seeking qualified applicant who is highly motivated, management oriented and strong in customer sales and service. Excellent growth opportunity and benefits. Salary commensurate with experience and performance. Send resume to: McNaughton's Nurseries, Inc., 351 Kresson Road, Cherry Hill, NJ 08034. 10/87

LANDSCAPE MAINTENANCE SUPERVISOR: Expanding landscape management firm seeking individual with supervisory ability and a minimum of two years experience in maintenance and/or installation. An agricultural related background or degree would be beneficial. Send resume with salary requirements to: Maintain Inc., 16008 Boss Gaston, Richmond, TX 77469, Attn: Branch Manager. 9/87

SEND YOUR RESUME IMMEDIATELY! We have open positions for Lawn Care Branch Managers, Nursery Managers, Horticultural, and Landscape/Const. Managers. We computer file your resume and contact you when jobs open in your field or area you desire. Confidential placement from Green Industry Resources Corporation, 25230 Conrad Ct., Damascus, MD 20872, (301)253-5787. 9/87

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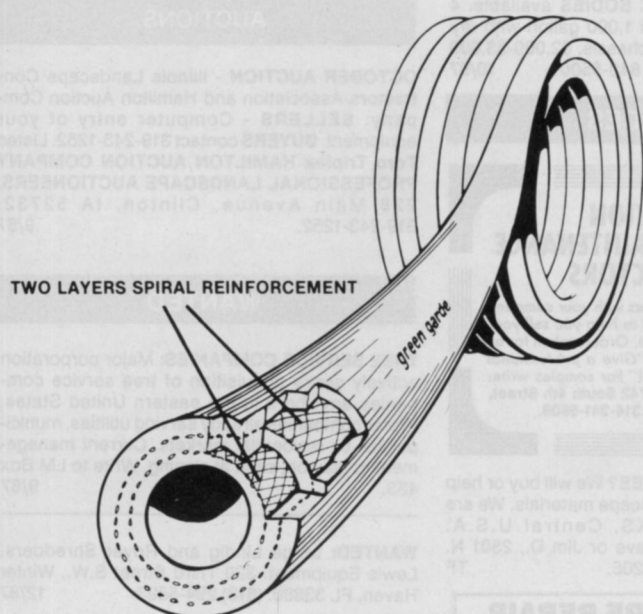
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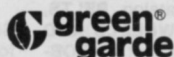
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